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BEHAVIOUR MODIFICATION  
FOR THE  
TREATMENT OF ALCOHOLISM  
An Annotated Bibliography

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TREATMENT OF ALCOHOLISM  
An Annotated Bibliography

Compiled at the  
Addiction Research Foundation Library  
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Bibliographic Series No. 10

R. J. Hall, Series Editor  
Addiction Research Foundation  
Toronto, Ontario, Canada



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I. S. B. N. 0-88868-013-9  
I. S. S. N. 0065-1885

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## CONTENTS

|                        |      |
|------------------------|------|
| Foreword .....         | vii  |
| Preface .....          | xi   |
| Introduction .....     | xiii |
| Bibliography .....     | 1    |
| Author Index ....      | 251  |
| Key Word Listing ..... | 261  |
| Key Word Index .....   | 265  |



## FOREWORD

Currently, the treatment of alcoholism, to a large extent, consists of therapeutic approaches adopted from the wider field of psychotherapy.

With the exception of antidypsotrophic medications and the philosophical approach of Alcoholics Anonymous, it is difficult to identify many proposed solutions that were initially developed specifically for the treatment of alcoholism. Studies examining the utility of current treatment approaches report "success rates" of 30-40%. Recently it has been suggested that it may be possible to increase these figures by matching patients with the type of treatment that can be shown to be the most likely to lead to a favourable outcome. Another area of interest involves the use of techniques to modify the drinking behaviour of alcoholics. The notion here is that alcoholism can best be treated by eliminating or modifying the patient's use of alcohol.

Behaviour Modification techniques have been used in the treatment of alcoholism since the 1920's. Therapeutic procedures based on Classical or Pavlovian conditioning involve the pairing of an aversive stimulus with an alcohol-related stimulus such that, over time, the alcohol stimulus serves to evoke a response similar to that elicited by the original, aversive stimulus. For example, the sight and taste of alcohol may be pre-

sented along with a painful electric shock. The intent is to associate the pain of the electric shock with the sight and taste of alcohol such that, following treatment, some portion of the painful reaction is evoked by alcohol-related stimuli. The patient, by avoiding the aversive stimuli, is, hopefully, more likely to remain abstinent than he would be if he had not gone through the conditioning process.

Operant or Instrumental conditioning involves the presentation of a reinforcer after the occurrence of a behaviour such that the rate of the behaviour can be increased or decreased. The capability of operant conditioning to change the rate of behaviour has led to the notion that alcohol consumption may be modifiable. The possibility of changing the rate of drinking, in conjunction with other evidence, has resulted in the interesting and controversial suggestion that it may be possible to teach alcoholics to drink in a socially acceptable or "controlled" manner.

In addition to Classical and Instrumental procedures the bibliography also contains abstracts of articles reporting on the use and utility of what might be called derivatives, e. g. , desensitization, contingency management, "verbal aversion". These recently developed techniques are the result of adapting the "laboratory" procedures to clinical settings.

The bibliography assembled over a period of 18 months has been compiled to provide a means of easy access to the English and foreign language literature that is available at present. It should be useful to the scientist

interested in conducting research on Behaviour Modification and to the clinician who wishes to be familiar with the application of information contained herein.

December 1, 1975

Dr. E. J. Larkin

ARF, Toronto





## PREFACE

It is generally agreed amongst the experts that medical and scientific literature has been growing at an exponential rate. This may create a difficult situation for the researcher who requires a comprehensive listing of material which has been published on a specific topic.

In searching the literature, manual or computerized techniques may be employed, however, each has its drawbacks. The manual approach is often a time consuming and tedious process, but a computerized retrieval system with a low degree of discrimination, although quicker, may not be as satisfactory. Since the majority of searching tools do not provide a comprehensive coverage of materials, it is also necessary to search the bibliographies that accompany individual papers.

In compiling this bibliography, a combination of these searching techniques has been employed and with the inclusion of annotations and indices, it provides the researcher with a basic reference tool for retrospective searching.

In the production of this volume, we acknowledge the guidance of Dr. E. J. Larkin and express our appreciation to Mrs. B. Merritt for the provision of material available through interlibrary loan. As in the past, we are

grateful to the remaining Library staff for their support in this project.

December 1, 1975

R. J. Hall

ARF, Toronto

Librarian

## INTRODUCTION

### Aim

This bibliography has been compiled to provide a means of access to a comprehensive collection of English and foreign language articles which have been published dealing with classical and operant behaviour modification therapies for the treatment of alcoholism and illicit drug addiction.

These therapies include: chemical aversion, electrical aversion, hypnotic aversion, contingency management, relaxation, systematic desensitization, visual-verbal procedures, and combinations of these. Clinical studies carried out in Russia in the 1920's and 30's, European studies conducted during the 1940's and 50's, and those carried out in North America in the 1950's and 60's are included. Only those articles discussing the treatment of the addiction using these methods are cited. Articles dealing with the control of the patient in the clinical setting, or the treatment of the patient's psychological inadequacies using these same methods are not included. Approximately 30 articles deal with Behaviour modification methods for the treatment of addiction to illicit drugs.

The range of literature includes clinical reports, review articles, letters to the editor, and commentaries of all types.

### Types of Information

#### A. Citations

Items are arranged alphabetically by senior author. The references include the usual bibliographic data, as well as index terms and an accession (microfiche) number. All citations include a short annotation.

#### B. Author Index

The name of each author represented in the bibliography is listed alphabetically (pages 251-258), and the citation numbers follow. An underlined number indicates that the author is the senior author for these particular articles.

#### C. Key Word Index

An alphabetical key word listing (pages 261-264) permits the user to select the terms which are relevant to his needs. The number beside each key word refers him to the Key Word Index (pages 265-275) where terms are grouped under appropriate headings accompanied by a list of corresponding bibliography numbers which directs him to the appropriate citations.

### USING THE INDEXES

The compiled indexes enable the reader to quickly find the citations which

correspond to his selected term. If terms are to be combined, it is often helpful to photocopy the page containing one of the chosen terms and use it to compare with the citation numbers listed beside any other relevant terms.



- 1 Abrams, S.  
AN EVALUATION OF HYPNOSIS IN THE TREATMENT OF ALCOHOLICS.  
American Journal of Psychiatry, 120: 1160-1165, 1964.  
E - gen. - gen. disc. - review - alcoh. - abst. - classical - chem.  
- hypn. (aver.) - combin. - group - desc. treatm. - disc.  
contraind. - disc. pharm. A-1941.

A review of the literature is presented in an attempt to evaluate the effectiveness of hypnotically induced aversion to alcohol. The author discusses the good results reported for the chemical aversion techniques in treating alcoholics. However, the contra-indications of the use of drugs substantially reduces the number of alcoholics that can be treated in this manner. The difficulty of determining when the onset of the effects would be experienced for conditioning purposes is also a major drawback. In hypnosis, the patient is told to recall or, if possible, to relive an occasion on which he was very ill after drinking. Through hypnotic suggestion, the nausea, vertigo, and vomiting are experienced again. Then a hypnotically induced hallucination of drinking an alcoholic beverage is repetitively paired with these feelings. This is continued until alcohol alone, without hypnotic suggestion, is sufficient to produce vomiting. Group sessions are useful as the responses of the individuals are strengthened by the similar reactions of the others. The patient is given 5 to 20 30-minute sessions approximately twice a week. Reinforcement sessions held every 3 months during the first year are important. The combination treatment of hypnosis and emetic drugs has also been reported to be successful. Seemingly, a larger proportion of alcoholics, than the reported 10.48% of the general population, are able to develop an hypnotic state. However, a much smaller number are capable of entering a deep trance. Whether this latter point is of importance has not been established. Due to the concern that the reduction of alcohol consumption is really symptom removal, reports are mentioned in which substitution of a non-alcoholic drink or a hobby is incorporated. More involved hypnotherapeutic techniques are discussed showing the divergence of opinion and findings of their effectiveness.

- 2 Ajuriaguerra, J. de, and Neveu, P.  
TRAITEMENT DES TROUBLES MENTAUX DE L'ALCOOLISME.  
[Treatment of mental disorders of alcoholism.]  
Gazette des Hôpitaux, 111(50): 817-821, 1938.  
F - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
adjuv. - desc. treatm. - disc. generaliz. - apomor. A-2271.

The authors first explain different treatments of alcoholism, such as symptomatic treatments, sedatives, pathogenic treatment, and special methods of treating mental problems. The strychnine therapy is described, giving exact dosages. This treatment lasts several weeks. Emetine chlorhydrate, followed by strychnine, has been used by Bodart. Lopez-Lomba has recommended the auto-hemotherapy, in which 3 times a week the patient's own blood is injected under the skin. By the third injection, a disgust for alcohol is developed. Markovnikow, Ichok, Martinor, and Maillefer have studied the methods based on the creation of a conditioned reflex against alcohol. 0.40 g. of ipeca extract are mixed with 1 litre of wine. After 15 meals, each followed by vomiting, the patient is offered some wine without ipeca, which also provokes nausea. At the present time the patients receive an injection of 5 mg. apomorphine after having drunk 1/2 litre of wine. Few relapses are observed; however, the patient may start to drink other types of alcohol, having been averted from only one kind. The strychnine therapy has provoked an aversion against alcohol, as has been observed by Combemale. Cossa has noted the disappearance of the urge for alcohol during this treatment. Psychotherapy is very important, associated with another treatment. Different reasons for becoming alcoholic are discussed.

3 Allen, E. B., and Prout C. T.

ALCOHOLISM.

Progress in Neurology and Psychiatry, 6: 451-464, 1951.  
 E - gen. - gen. disc. - abst. - classical - chem. - desc. treatm. -  
 apomor. - disul. - emetine A-2253.

The authors discuss alcoholism and its treatment under the following headings: Endocrine theories and therapy - metabolism; Tetraethylthiuram disulfide (antabuse, antabus); Conditioned-reflex therapy and follow-up; Other forms of drug therapy; Convulsions and alcoholism; Angina pectoris; Hospital treatment and follow-up; Psychodynamics and psychotherapy; Special technics; Crime-suicide; and Industry - social survey - reports; A study of 4,086 alcoholics treated by the conditioned-reflex aversion method with emetine found an over-all abstinence rate of 51 percent over a 13 year period. Of those who relapsed and were treated again, 39 percent remained abstinent. It has been found that the better off alcoholic responds the best to this type of treatment. The effects produced by antabuse, as a conditioning agent is not specific enough, deep or long lasting. The emetic action of apomorphine is too short-lived and its sedative action interferes with conditioning. Thiopental treatment has been combined with conditioned-reflex therapy.



Of the 479 patients who were treated with thiopental, of which 219 patients who received combined treatment, 57 percent of the former and 68 percent of the latter group remained abstinent from 6 months in 82 percent to 3 years in 26 percent of the patients.

4 Alterman, A. I., Gottheil, E., Skoloda, T. E., and Grasberger, J.C.  
SOCIAL MODIFICATION OF DRINKING BY ALCOHOLICS.  
Quarterly Journal of Studies on Alcohol, 35(3): 917-924, 1974.  
E - res. - clin. study - tables - pat. - more ss. - male - alcoh. -  
abst. - operant - pos. reinfor. - group - desc. treatm B-3807.

A six-week research and treatment program was set up in which alcoholics could drink up to 2 ounces of alcohol 13 times a day on the hour during the second through fifth weeks. The dry periods between drinks were "designed to promote the patient's ability to think about each decision." The program group consisted of 44 male alcoholics who were treated in 1 of 6 successive treatment cycles on a closed ward. Their demographic and drinking-history data are provided. The only therapeutic "intervention consisted of an attempt to unobtrusively induce either a drinking (D) or an abstinence (A) set during the course of a general discussion of the patients' understanding of the program." And then, to elicit public commitments as to whether the person was going to drink and then stop (D) or to resist drinking during the program (A). Commitments were made by 15 of the 24 patients in the A-set compared to 9 of 20 patients in the D-set. The percentages of commitments in the two groups were found to be significantly different. "Thirteen of 20 patients (65%) exposed to the D-set drank at some time during the program compared with 8 of 24 (33%) in the A-set ---" this difference was significant. "In the D-set, 7 of 9 patients who made a commitment to drink and 4 of 5 who stated they would remain abstinent subsequently drank" while "14 of 15 patients who stated the intention to remain abstinent succeeded." While both sets were based on the influence of subtle social reinforcement, the abstinence set was much more successful than the drinking set.

5 Amado Ledo, E.  
TRATAMIENTO DE LA INTOXICACION ALCOHOLICA.  
[Treatment of alcohol intoxication.]  
Archivos del Hospital Universitario, 8: 262-265, 1956.  
Sp - gen. - gen. disc. - alcoh. - abst. - classical - chem. - disc.  
theo. treatm. - emetine - pilocar. - ephedrine A-0489.

The author presents a diagnosis of alcoholic intoxication, and then a list of different methods of treatment, not relevant to behavior modification. Under uncomplicated chronic alcoholism, there is also a list of treatments for initiating abstinence, and then for maintaining abstinence. For the latter there is the establishment of conditioned reflexes, obtained by 1) the injection of emetine, pilocarpine and ephedrine, and an offer of alcohol to the patient at the moment of injection, and 2) antabuse, which requires a previous abstinence of one week. One gram is administered daily during the following week. An alcohol-antabuse reaction is provoked with one ounce of alcohol after this week, and for an indefinite time a dose of 0.5 grams of antabuse is maintained. Contra-indications are given, such as serious organic affections. There is a list of methods of hormone treatment, giving the required doses of the medications. The last section deals with prolonged psychotherapy and rehabilitation, concerning different types of complicated chronic alcoholism. The hospitalized patient is treated with chemicals, and by electrolytic balance. There are other treatments, irrelevant here.

- 6 Anant, S.S.  
 THE TREATMENT OF ALCOHOLICS BY A VERBAL AVERSION  
 TECHNIQUE: A CASE REPORT.  
 MANAS: American Journal of Scientific Psychology, 13(2):  
 79 - 86, 1966.  
 E - gen. - case disc. - pat. - few ss. - male - alcoh. - abst. -  
 classical - relax. - vis. - verbal - combin. - indiv. - desc. treatm.  
 - disc. generaliz. - goal establis. B-3787.

The author pointed out that behavior therapies had an experimental basis while the basis of psychoanalytical psychotherapy had yet to be proved empirically. Systematic desensitization and aversion-relief were 2 of the most widely used techniques in behavior therapy. The author presents results of previous reports of treatment using emetine and electric shock. The author describes the treatment of one alcoholic who was representative of 26 cases of alcoholism and drug addiction treated with his method of "unpleasant auditory stimulation" or the "verbal aversion technique." The patient was initially asked about his drinking habits. He was also instructed in how to become totally relaxed, both physically and mentally. The state of relaxation was not similar to a hypnotic state but was extremely important in the beneficial effect of verbal aversion conditioning. After the initial session, the patient was asked to imagine as vividly as possible while in a relaxed state, drinking scenes related to his previous drinking experiences. However, in these scenes his drinking led to ill feelings, nausea, and vomiting.

In each instance, relief was experienced after he imagined that he had disassociated himself from alcohol. These scenes progressed from the patient imagining himself becoming ill from drinking alcohol to becoming ill from just thinking about drinking. During these sessions, the alcoholic stated that he experienced sensations of pain and a desire to vomit. Outside of therapy, he reported feeling ill at the thought of having a drink and actually vomited in one case. When he imagined himself disassociated from alcohol and/or drinking a soft drink he was asked to experience the relief from the ill feelings experienced while imagining drinking alcohol. The patient was given 5 sessions of treatment and was released from hospital the same week. He remained abstinent for over a year. The advantages of this technique were that no external agents, such as pills, injections or electrical apparatus, were needed and that aversion could be produced to a variety of different alcoholic beverages and different drinking settings.

7 Anant, S. S.

THE USE OF A VERBAL AVERSION TECHNIQUE WITH A GROUP OF ALCOHOLICS.

Saskatchewan Psychologist, pp. 28-30, May, 1966.  
 E - gen. - clin. study - out-pat. - few ss. - male - alcoh. - abst.  
 - classical - relax. - vis. - verbal - combin. - group - desc.  
 treatm. - goal establis. - c. r., 95 B-3232.

The author had used a verbal aversion technique on an individual basis. This consisted of presenting a series of scenes designed to create aversion for alcohol to the imagination of a deeply relaxed alcoholic patient. This technique was tried with a group of four male alcoholics, all around the age of 26 and all having a long history of alcoholism. The patients were trained in the technique of relaxation. Then, three scenes were presented in each of five session held over a period of three weeks. The patients were very cooperative. The scenes involved different place and different types of alcoholic beverages. The scenes always involved the patients' drinking or their desire to drink which always led to sickness and vomiting. The last session conditioned the patients to equate drinking to the taking of soft drinks. The patients were asked to practice all types of scenes at home. Abstinence was experienced as soon as the first week-end after the first session. It was evident that this technique was as effective with groups as it was with individuals. One problem encountered with groups is that different people have different drinking patterns. This means that the members of a group need a certain level of homogeneity so that the same scenes can be used. If the alcoholics were not homogenous in the places they were used to drinking in, individual

treatment would be necessary.

- 8 Anant, S.S.  
 A NOTE ON THE TREATMENT OF ALCOHOLICS BY A VERBAL  
 AVERSION TECHNIQUE.  
 The Canadian Psychologist, 8a(1): 19-22, 1967.  
 E - res. - clin. study - more ss. - male - alcohol. - abst. - classical - relax. - vis.-verbal - combin. - indiv. - group - desc.  
 treatm. - goal establis. - c.r., 95 - f.p., 9m. - f.p., 1y. -  
 d.r., 3 B-3109.

A report is presented of an aversion technique, based on verbal conditioning, used with 26 alcoholics. The 11 patients seen individually, and the other 15 patients seen in 4 groups, were trained in relaxation. From personal information previously obtained from the individual patients, the therapist would have the patients imagine, while in a relaxed state, scenes corresponding to their drinking patterns. In every instance, the patients were instructed to imagine themselves becoming ill and vomiting. This therapy progressed to the level where they imagined sickness resulting just from the desire to drink liquor. This development advanced at different speeds with the different patients. The 25 patients who completed the treatment have abstained for a period ranging from 8 to 15 months. The aversion technique provides the negative reinforcement required for creating a dislike for alcohol. Nausea and vomiting, which the patient dislikes, is paired with his drinking pattern.

- 9 Anant, S. S.  
 ALCOHOLICS ANONYMOUS AND AVERSION THERAPY.  
 Canada's Mental Health, 16(5): 23-27, 1968.  
 E - gen. - clin. study - more ss. - female - male - alcohol. - abst. - classical - relax. - vis.-verbal - combin. - indiv. - group - desc. treatm. - disc. theo. addict. - goal establis. B-3198.

The author mentions Alcoholics Anonymous and discusses aversion therapy as two therapeutic approaches to the treatment of alcoholism. In doing so the writer's personal theory of the cause of alcoholism, that of frustration, is outlined. In approaching A. A., the alcoholic "suddenly finds himself among people who not only understand him, but also accept him as he is without passing judgement, as happened in other groups." However, there is no motivation for him to face his problems and frustrations. He has



learned to avoid these experiences by drinking alcohol. For this reason, the alcoholic also needs aversion therapy so that alcohol will no longer be his escape. Both chemical and electrical aversion techniques have been used. Both have problems associated with them. The technique described in this article required no external agents. "The technique includes teaching a deeply relaxed patient to visualize a situation in which he sees himself drinking, feeling sick and the vomiting." A history of the alcoholic's drinking and his drinking habits is obtained. Using this information to construct scenes which the alcoholic visualizes, a creation of negative conditioning toward drinking is attempted. Then a negative conditioning is directed towards his desire to drink alcohol. Lastly, positive conditioning is attempted between drinking and the drinking of soft drinks. For the 26 patients treated, 11 being treated individually and 15 seen in four psychotherapy groups, the period of abstinence ranged from 6 to 23 months. In a follow-up study, only 3 of 8, who could be contacted, were still abstinent.

- 10 Anant, S.S.  
 COMMENT ON "A FOLLOW-UP OF ALCOHOLICS TREATED BY  
 BEHAVIOR THERAPY."  
 Behaviour Research and Therapy, 6: 133, 1968.  
 E - gen. - gen. disc. - more ss. - alcoh. - abst. - classical -  
 relax. - syst. desens. - combin. - goal establis. B-3148.

This short paragraph summarizes the author's success when he presented to his deeply relaxed alcoholic patients a hierarchy of scenes involving drinking episodes resulting in vomiting. He found that relaxation went a long way in making the patient more suggestible to the aversive influence of the hierarchies of scenes. The author reports that 25 of 26 patients responded well and remained abstinent for a period ranging from 14 to 21 months.

- 11 Anant, S. S.  
 THE EFFECT OF PRIOR DISCUSSION ABOUT TRAUMATIC  
 SITUATIONS ON THE DESENSITIZATION PROCESS.  
 Psychological Studies, 11: 89-98, 1968.  
 E - gen. - gen. disc. - pat. - few ss. - male - alcoh. - abst. -  
 classical - indiv. - desc. treatm. - goal establis. B-3735.

The desensitization technique and aversion-relief therapy have relieved patients of their anxieties acquired through inappropriate

conditioning. However, these methods have been less effective with patients who have never acquired the knowledge of correct responses in anxiety-producing situations. Because of this, the author would spend some time discussing these situations and how the patient could have responded in them. The author presents 3 case histories, one of which dealt with a male alcoholic. A 15 minute discussion on the problem of alcoholism preceded each aversion-relief therapy session. After only 5 sessions, the patient showed extreme disgust for alcohol, becoming sick at the mere thought of it. He was released from hospital and has not yet returned to hospital.

- 12 Anant, S.S.  
 FORMER ALCOHOLICS AND SOCIAL DRINKING: AN  
 UNEXPECTED FINDING.  
 Canadian Psychologist, 9(1): 35, 1968.  
 E - gen. - gen. disc. - few ss. - male - alcoh. - abst. - classical  
 - relax. - vis.-verbal - combin. - disc. theo. treatm. - goal  
 establis. B-3199.

A male alcoholic remained abstinent for about two years following verbal aversion treatment. "Everytime he wanted to drink, he felt sick as an influence of aversion treatment." It was learned that he had resumed drinking, could stop at will, and could go without drinking for several days or weeks. This is contrary to the belief that alcoholics are unable to voluntarily stop drinking. Possibly, as the initial sensitivity to the aversion wears off, he is better able to control his drinking. As this is only one instance, further research is required.

- 13 Anant, S. S.  
 TREATMENT OF ALCOHOLICS AND DRUG ADDICTS BY VERBAL  
 AVERSION TECHNIQUES.  
 International Journal of the Addictions, 3(2): 381-388, 1968.  
 E - gen. - case disc. - clin. study - pat. - more ss. - female -  
 male - alcoh. - drug. addict. - abst. - classical - relax. - vis. -  
 verbal - combin. - indiv. - group - desc. treatm. - disc. probl.  
 pat. - goal establis. B-3289.

The author reports the findings of other studies in which aversion therapy was used in the treatment of alcoholism. The different types of therapies included chemical, electrical, aversion-relief, and paralysis produced by succinylcholine. The author then dis-

cusses the verbal aversion technique and presents several case histories. Undergoing this treatment, the patient provides a history of his drinking and drinking habits. Having been taught to relax, the patient is asked to imagine about 15 different scenes per session which correspond to the patient's past experience. These scenes invariably "lead to change of taste, stomachache, nausea, and vomiting" after the person drinks some of his favorite alcoholic beverage. After some time, actual signs of nausea can be observed in the patient. The patient is instructed, as well, to imagine these scenes on his own at home. The second and third sets of scenes deal with the patient's desire to drink. The scenes he is asked to picture are such that the "mere desire to drink and the approach behavior toward alcohol leads to nausea and sickness." The last set of scenes provides a positive connection between drinking and soft drinks. Each of these "stages may involve one to two sessions, depending upon the suggestibility and cooperation of the patient." For the 26 patients, 11 treated individually and the others seen in four groups, the period of abstinence ranged from 6 months to 22 months. Periodic reinforcement sessions were suggested so that the negative conditioning toward alcohol would not diminish. A case involving an alcoholic-homosexual, and one involving a drug addict-alcoholic are presented. This type of technique is preferable to a chemical or an electrical technique as there is no external agent to control. "The technique seems suited to all cases where negative conditioning is required for the elimination of unwanted---habits."

14 Anant, S.S.

THE USE OF VERBAL AVERSION (NEGATIVE CONDITIONING)  
WITH AN ALCOHOLIC: A CASE-REPORT.

Behaviour Research Therapy, 6: 395-396, 1968.  
E - gen. - case disc. - pat. - few ss. - male - alcoh. - abst. -  
classical - relax. - vis.-verbal - combin. - indiv. - desc treatm. -  
disc. generaliz. - goal establis. - f.p., 2y. B-3149.

A case report is presented of the treatment of a male alcoholic using a verbal aversion technique. The method involved asking the deeply relaxed patient to image scenes in which he drank, felt sick and vomited. This approach would negatively reinforce the habits of the patient, associating his drinking with vomiting in imagination. The 53 year old alcoholic had been drinking for many years and had been arrested many times for seducing young boys. He was initially taught to relax deeply and then was asked to imagine scenes involving his drinking. The scenes were prepared taking into consideration the types of alcoholic beverages the patient drank, the places, and the people with whom he drank. The aversiveness of the scenes

was increased successively by associating nausea and vomiting with more and more familiar and embarrassing situations. He was also instructed to imagine the same scenes on his own. As early as the third session, he reported actually feeling sick when he thought of alcohol. The association was developed so that just the desire for alcohol made him ill. Because an aversion to bottles had developed, he was asked to imagine the drinks he desired were soft drinks, that he drank these beverages, and enjoyed them. This positive conditioning took place during the seventh and eighth sessions. The patient remained sober for 23 months during which time he would become sick whenever he tried to drink. After this time, he began to drink but with better control. It was felt that reinforcement sessions were necessary to guard against the extinction of the negative conditioning towards alcohol. The patient could attempt this, himself, imagining at home those scenes used during the original sessions.

- 15 Anderson, D., and Cooper, P.  
 CHAPTER XII. DRUG THERAPY.  
 In: Anderson, D., and Cooper, P. The Other Side of the Bottle.  
 New York: A.A. Wyn, Inc., pp. 120-128, 1950.  
 E - gen. - gen. disc. - pat. - female - male - alcoh. - abst. -  
 classical - chem. - adjuv. - desc. treatm. - emetine A-2232.

The author reports his experience of being treated by the conditioned reflex method for alcoholism. When the author first underwent this treatment, he became extremely uncomfortable and began another fit of retching at the mere sight of an alcoholic drink. However, the aversion soon wore off. The author outlines the establishment of the Shadel sanitarium in Seattle for the treatment of alcoholism and discusses the interests and work of Dr. Voegtlin. Through experimentation, it was found that emetine was the best emetic drug to use. The doctors decided, further, to tell each patient the significance of the nauseant he was given. A soundproof treatment room was designed and through further study, it was realized that not all types of alcoholics responded as well to this type of treatment. Psychotic patients were no longer accepted while those patients who did not come on their own free will, who were young drinkers, and who were female were found to benefit less from this type of treatment. Middle-aged men, who were otherwise responsible, were found to be the most successful patients. In addition, "it became apparent--- that the success of the conditioning (depended) on the skill in timing and the administration of the emetic with the drinking of the liquor." The doctors also realized the value of physically rehabilitating the patients and providing psychotherapy, using the pentothal interview technique,



when needed. The spontaneous group therapy practiced by the patients, themselves, proved to be a most helpful aspect of this treatment. Some of those patients returned after 6 months and 1 year to undergo reinforcement sessions. A set of rules was given to each patient as he left, after his treatment. The idea conveyed to the person was that the continued success of his treatment depended on the person, himself.

- 16 Andreichikov, S.N.  
 OPYT ORGANIZATSII I RABOTY NARKOLOGICHESKOGO  
 DISPANSERA. [Experience in the organization and work of a  
 narcological dispensary.]  
 Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 59:  
 761-763, 1959.  
 R - gen. - gen. disc. - alcoh. - abst. - classical - chem. - indiv.  
 - desc. treatm. - disc. contraind. - apomor. A-2070.

Techniques that can be used in the treatment of alcoholics include: conditioned-reflex therapy, the use of general strengthening means through medication and physiotherapy, psychotherapy, work therapy, and cultural therapy. Conditioned-reflex therapy with apomorphine was conducted 6 times a week and began with a dose of 0.3 ml. of a 5 percent solution of apomorphine hydrochloride. If the vomiting reaction was too weak, the dose was gradually increased from 1 to 1.5 ml. at each of the later sessions. In this study alcohol was sprayed into the mouths of the patients at the point of vomiting. After the vomiting reaction began occurring, ethyl alcohol, (strength 40 percent); straight vodka and wine were used so that the patients would have a distaste for all those beverages. Other treatment using visual aids, and record players, were provided. The author found that ulcer diseases, without stomach bleeding, hypertensive symptoms, heart ailments, and hepatitis were not aggravated by this treatment.

- 17 Anonymous  
 COMMENT DESINTOXIQUER LES ALCOOLIQUE CHRONIQUES.  
 [How to detoxicate chronic alcoholics.]  
 Praxis, 31: 861, 1942.  
 F - gen. - gen. disc. - alcoh. - classical - chem. - desc. treatm.  
 - disc. theo. treatm. - apomor. A-2280.

Recent statistics show that the average annual individual consumption of alcohol in France is higher than in any other European country. Along with educational and preventive measures, an attempt

should be made to suppress the "need for alcohol", in order to achieve a true cure, especially considering the damage done to organs associated with the disease. Following the relatively poor results obtained from the use of an anti-alcohol serum, auto-hemotherapy, and auto-serotherapy, the creation of a conditioned reflex has proven to be an effective means of causing distaste for alcohol. For example, 3 milligrams of apomorphine are given with a glass of alcohol, and after a small number of sessions merely the ingestion of the alcohol causes nausea. Strynotherapy gives excellent results in incidents of acute alcoholism, but is not sufficient in producing distaste for alcohol. More recently, the use of potassium sulfocyanate (rhodonate) has produced repugnance for alcohol in all its forms. In its pure state it is not toxic, and must be administered in an aqueous solution, in strong and prolonged doses. Possible explanations for its action are; that it increases the hydremia, thus lowering the thirst sensation which comes from lowered blood volume, or perhaps it acts by altering, in its elimination by the salivary glands, the taste of alcohol in the mouth.

## 18 Anonymous

A STATE HOSPITAL FOR ALCOHOLICS IN ILLINOIS.

Quarterly Journal of Studies on Alcohol, 4: 136-139, 1943-44.  
 E - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 desc. treatm. A-2243.

The article presents a statement describing the types of services provided and the types of alcoholics sought in a newly established treatment centre in Chicago. The 2 services provided were conditioned reflex treatment and Alcoholics Anonymous. It is explained how, through the use of a drug which produces nausea and vomiting, the thought, smell, sight or taste of liquor initiates these ill feelings through their frequent association. It was also noted, however, that this strong distaste for liquor was only temporary. It was hoped that the breathing spell, provided by this therapy, would allow other efforts including his own will to become nonalcoholic a chance to have their effects. Patients, to be accepted must have been of sound physical condition and usually under the age of 50 years. Mental illness should not be present as well as alcohol-related impairment of the mind. The alcoholic or his friends or relations had to finish the beer, whisky, gin and wine required and the quantities are listed. Because evidence of some determination was required, only patients who had had at least 3 years of successful work experience were accepted. The Alcoholics Anonymous Approach is also discussed.

## 19 Anonymous

## EMETINE IN ALCOHOLISM.

New England Journal of Medicine, 240(25): 1029, 1949.  
E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - disc.  
pharm. - emetine A-2258.

The writer of this editorial suggested that a report of a fatal case following the use of emetine HCl in the conditioned reflex treatment of chronic alcoholism points out the need for care in the use of this drug. Emetine may be toxic to the myocardium, "presumably in proportion to the patient's sensitivity to it and certainly in proportion to the dose administered." Dangerous reactions could be avoided through preliminary examinations, including an electrocardiogram; absolute rest during and after treatment; and observation for signs of diarrhea, fatigue, and other symptoms. In cases in which cardiovascular and other manifestations have occurred, prompt treatment has led to complete recovery.

## 20 Anonymous (Queries and Minor Notes)

## HOME TREATMENT FOR ALCOHOLISM.

Journal of the American Medical Association, 157(1): 99, 1955.  
E - lett. ed. - gen. disc. - alcoh. - abst. - classical - chem. -  
disc. pharm. - apomor. A-2052.

This reply to a letter to the editor outlines the procedure used to determine the maximum dose of apomorphine in the treatment of alcoholism. In this description, no reference is made to the drinking of alcohol in connection with treatment. It is stated that the action of apomorphine is so variable when given by mouth and that the beneficial results are so doubtful, that this form of treatment is not advisable. Even when injected, its nauseating effect is too short to form a strong and lasting association between drinking and the ensuing illness. In addition, the drug produces euphoria and drowsiness which are not conducive to conditioning. Lastly, the psychic component of the treatment has a direct effect on the efficacy of the treatment.

## 21 Anonymous

## TREATMENT OF ALCOHOLISM - PART II.

Maryland State Medical Journal, 22(4): 17-19 1973.  
E - gen. - gen. disc. - out-pat. - pat. - alcoh. - abst. - classical  
- chem. - pos. reinfor. B-3285.

In this outline of different treatments of alcoholism, the author dis-

cusses psychotherapy, behavior modification, hypnosis, the use of LSD, the use of disulfiram, the use of other psychoactive drugs, and hospitalization. The hypothesis underlying behavior modification is that "alcoholism is maintained because it is learned and reinforces as a behavior that engenders important rewards."

Aversive therapy, a form of negative reinforcement, consists of giving the alcoholic a painful experience and associating it with the use of alcohol. Examples of aversive stimuli are electric shock, chemically produced vomiting and chemically produced paralysis of the musculature. In most cases, these methods must be backed up by other forms of help. Positive reinforcement, which would "make not-drinking a more rewarding experience than drinking" could be expected to prove more effective in altering behavior. Only now are specific techniques being developed by behavior therapists. The difference in outlook between behavior modification and psychotherapy is that in the former, an attempt is made to establish desirable responses by applying different stimuli for the patient. In the latter, the therapist avoids the stimuli and the responses and seeks only the insights into the person himself. The author goes on to discuss the other types of treatment.

- 22 Anvaer, S.I., Andreeva, V.S., Zak, N.N., and Morozov, V.M.  
 [On the treatment of chronic alcoholism with thiuram.]  
 Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 52(4):  
 58-61, 1952.  
 R - res. - clin. study - pat. - more ss. - female - male - alcohol. -  
 abst. - classical - chem. - desc. side-effects - desc. treatm. -  
 goal establis. - c.r., 35 - f.p., 3m. - disul. A-2067.

Forty patients, 18 men and 12 women, received conditioned-reflex treatment for alcoholism. After detoxication and a physical examination, the patients received 1 g. of disulfiram on the first day and then .06 g. of the drug per day. On the third or fourth days, the patients drank 40 to 100 cc. of alcohol for women and 150 to 300 cc. of alcohol for men two to three hours after disulfiram was administered. Treatment was carried out each day or every other day for between 4 and 16 reactions with the men and between 6 and 8 reactions in the women until a conditioned reflex was established. The disulfiram-alcohol reaction experienced by the patients is described to cause a reaction greatly varied among individuals and from day to day. Mild reactions were followed by quiet, healthy sleep while severe reactions were followed by a stuporlike sleep. Reactions were also much more severe in the men than the women. Eight of the men remained abstinent for 4 to 6 months while 4 others drank less than before. Eight of the women remained abstinent for this period of time and another 3 drank less. Better results were a-

chieved in those patients who responded to psychotherapy and were not psychologically deteriorated.

- 23 Artunkal, S.  
 ALKOLİZMİN BUGÜNKÜ TEDAVİSİ. [The treatment of  
 alcoholism.]  
 Türk Tip Cemiyeti Mecmuası, 17:112-120, 1951.  
 T - gen. - gen. disc. - alcohol. - abst. - classical - chem. - adjuv.  
 - desc. treatm. - apomor. - disul. - emetine A-2352.

The author discusses the treatment of chronic alcoholism. A conditioned-reflex of aversion can be produced by associating the sick-feeling effects of apomorphine or emetine with the consumption of alcohol. Disulfiram could be used instead, but it can have toxic effects. For effective treatment, psychotherapy should be included along with the conditioned-reflex treatment of alcoholism.

- 24 Ash, W. E., and Mahoney, J. D.  
 THE USE OF CONDITIONED REFLEX AND ANTABUSE IN THE  
 THE THERAPY OF ALCOHOLISM.  
 Journal of the Iowa Medical Society, 41: 456-458, 1951.  
 E - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical  
 -chem. - desc. treatm. - disc. contraind. - disc. generaliz. -  
 goal establis. - c. r., 65 - f. p., 3m. - emetine A-2034.

The author states that there are many different reasons why people drink excessively and that there are many different types of treatment for alcoholism. He proceeds to discuss conditioned reflex therapy and the use of antabuse in the treatment of alcoholism. In the former, nausea and emesis is produced by an emetic drug and as this ill feeling develops, an alcoholic beverage is given the patient so that the ill feeling becomes associated with the drink. It is hoped that, in this way, the sight, taste and smell of an alcoholic beverage will produce nausea in the patient. The formal procedure is outlined and it is suggested that different alcoholic beverages should be used in the conditioning process and that if the patient is unable to empty his stomach, it should be lavished. The procedure should be repeated on five different occasions over a ten day period. During this time, superficial psychotherapy is provided in an attempt to solve some of the minor conflicts of the patient. Two additional treatments are advised for each patient one month after treatment. Of 547 selected patients treated, 65 percent have remained abstinent for from 6 months to 8 years. Of the total number, about 5 percent have returned for a second course of treat-



ment after a relapse. This treatment is a benefit for those alcoholics with no severe psychotic problems. Contraindications such as active gastric or duodenal ulcers, or severe cardiac disease of any type are mentioned. Because of the fewer contraindications and because there is no danger to the person who resumes drinking, as is the case with antabuse, this therapy can be given to more patients.

- 25 Ashem, B., and Donner, L.  
 COVERT SENSITIZATION WITH ALCOHOLICS: A CONTROLLED REPLICATION.  
 Behaviour Research and Therapy, 6: 7-12, 1968.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 abst. - classical - relax. - syst. desens. - combin. - desc.  
 treatm. - c.r., 35 - f.p., 3m. - r.r., 45 - d.r., 8 B-3150.

A clinical study is presented to determine the efficacy of covert sensitization in conditioning a phobic-type response to alcohol for the treatment of alcoholism. Twenty-three male alcoholics volunteered for the 6 weeks of treatment in which three conditions were presented: forward classical conditioning, backward classical conditioning, and no contact. The patients in the groups were matched on the basis of I.Q., age, and drinking experience. The treatment consisted of nine sessions which ranged from 30 to 40 minutes. Each patient gave a description of his drinking situations and this was used to formulate scenes which the patient was asked to imagine while in a state of relaxation. In the first group, aversive imaginary stimulus was presented immediately after the patient had experienced the taste of alcohol during the initial scenes which he imagined. In the second group, the aversive imaginary stimulus was presented first followed by the imagination of alcohol associated with the ill feeling. During later sessions, in both groups, alternate responses to drinking were associated to relaxation and comfort. The third group of patients were not treated. The results were based on the state of the men six months after treatment. While it was felt that backward conditioning would negate the effectiveness of the treatment, this was found not to be the case. The results of the two conditioning groups were combined and compared to those of the control group. There was a significant difference between the treated and control patients as 40 percent of the treated patients were not drinking. All the control patients were drinking after six months. This improvement occurred in men who had been drinking for an average of 18.5 years. Further investigation, studying such factors as experience, sex of therapist, ability of the alcoholic to imagine scenes and to relax is needed.

26 Aubertin, E.

LES TRAITEMENTS ACTUELS DE L'ALCOOLISME CHRONIQUE:  
L'ANTABUSE, LA CURE DE DEGOUT. [ The present treatments of  
chronic alcoholism: antabuse, the distaste cure.]  
Journal de Médecine de Bordeaux, 127: 766-767, 1950.  
F - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
desc. treatm. - apomor. - disul. A-2293.

Antabuse comes in 0.50g tablets and is known in France under the name of Esperal. Before any treatment, the patient must be thoroughly examined as to health problems which may make it impossible for him to undergo the treatment. The patient must agree to be treated with antabuse, and abstain from drinking for 48 hours before the treatment. The drug is administered in the mornings, at breakfast. During 4 days, 1 to 2 tablets are given, and on the fourth day, the doctor offers 50 to 100 cc<sup>3</sup> of wine to the patient. This small dose prevents too violent reactions. The reactions occur 10 to 15 minutes later. The face, eyes, and neck turn red, the pulse accelerates, the patient feels dizzy, and often vomits. The crisis never lasts longer than one hour and 20 minutes. Then one tablet of antabuse is administered each morning for 4 days and the reaction to wine is provoked again. The dose of antabuse is maintained during 8 days. The patient is dismissed, but he must present himself once a week for examination of his sensitivity to alcohol. The treatment may be continued with 1/4 tablet for 6 months, when success is generally obtained. A psychotherapy is usually associated with the treatment. The use of antabuse may be dangerous and must be precisely regulated. Aversion treatments involve the creation of a conditioned reflex against alcohol. The patients must be treated in the hospital, or in a clinic. 0.005 g. of apomorphine is injected and alcohol is offered to the patient, after having explained to him that he will vomit. The reaction occurs immediately. This is repeated one or two times daily, and the injections of apomorphine are eliminated as soon as the mere odour of alcohol provokes nausea. At this moment, the conditional reflexes are established, and they have to be fixed by treatments at prolonged intervals. This method cannot be applied to patients with heart problems. Also a previous abstinence is necessary. The personality of the patient is important. Emotional people are most easily conditioned, while the violent and the frustrated are more resistant.



- 27 Bachet, M.  
 INHIBITIONS DE TYPE HYPNOTIQUE ET INHIBITIONS PAR  
 L'AMBIANCE EN THÉRAPEUTIQUE PSYCHOSOMATIQUE.  
 [Inhibitions through hypnosis and a psychosomatic therapeutic  
 environment.]  
 Gazette Médicale de France, 60: 847-860, 1953.  
 F - gen. - gen. disc. - pat. - few ss. - alcoh. - abst. - classical -  
 hypn. (aver.) - hypn. (gen.) - relax. - combin. - desc.  
 treatm. A-2089.

It is possible to create a conditioned reflex to alcohol through the use of hypnosis. The author feels that a less strenuous and more favorable method can be used in the treatment of alcoholism through relaxation under hypnosis. Both these methods can be incorporated. This is possible by creating a conditioned reflex in one or two sessions and then providing hypnorelaxation in later sessions. Some results have been obtained with a few alcoholics.

- 28 Bandura, A.  
 AVERSIVE COUNTERCONDITIONING. ALCOHOLISM.  
 In: Bandura, A. Principles of Behaviour Modification, Toronto:  
 Holt, Rinehart and Winston, Inc., pp. 528-550, 1969.  
 E - gen. - gen. disc. - review - tables - alcoh. - abst. - classi-  
 cal - chem. - electro. - desc. treatm. - disc. theo. addict. -  
 disc. theo. treatm. B-3766.

Behavioral treatment of alcoholism is discussed under the following headings: Effects of alcohol on emotional arousal and reactivity, Effects of alcohol on avoidance and escape responses, Determinants of voluntary alcohol consumption, Social learning of drinking behavior, Conditioned aversion therapy, Efficacy of aversion therapy, Disulfiram regimen, and Multifactor treatment of alcoholism. Conditioned aversion therapy is described noting that "treatment consists essentially of associating the sight, smell, taste, and thought of alcohol with drug-induced nausea in 4 to 7 brief sessions distributed over a period of about ten days." Variations in the conditioning procedure made by several researchers are included, as well. Considerations that must be dealt with in evaluating the success of treatment of alcoholism are discussed. Following this, a table is provided listing 16 investigators along with the results of their programs. The factors which may be influential in the different rates of success found among these studies are discussed. Such factors are subject characteristic differences, and differences in implementation of requisite conditioning procedures. It was found that

"aversive counterconditioning is -- a simple, brief, economical, and relatively effective method for producing aversion to alcohol for at least a limited period, and for continued total abstinence in approximately 50 percent of the clients." The basis of this approach is provided as the author states that "sustained abstinence is -- largely ensured not by the fact that liquor has been endowed with negative properties, but because elimination of drinking behavior removes the adverse consequences of chronic inebriation and creates new reinforcement contingencies with respect to a broad range of behavior."

29 Beaubrun, M. H.

TREATMENT OF ALCOHOLISM IN TRINIDAD AND TOBAGO,  
1956-65.

British Journal of Psychiatry, 113: 643-658,

1967.

E - res. - clin. study - pat. - more ss. - female - male - alcoh. -  
abst. - classical - chem. - adjuv. - desc. treatm. - c.r., 45 -  
f.p., 4y. or more - emetine

B-3201.

An alcoholism treatment centre was set up to treat the alcoholics in Trinidad and Tobago. In 1956, Emetine aversion treatment and group discussion was begun. The latter developed over the years to milieu therapy, group psychotherapy, and Alcoholics Anonymous meetings. "Emetine was first chosen because in dealing with patients of lower socio-economic levels it was felt that a drastic treatment seemed to dramatize the starting point of the patient's sobriety." As time passed, less emphasis was placed on following the strict principles of Pavlov. Some patients did develop a genuine conditioned aversion while others seemed to benefit just as much while not experiencing aversion. Follow-up studies were carried out in 1963 and 1964 of those 57 patients treated in 1956 and those 313 patients treated in 1961. A questionnaire was sent to these patients and the information provided was checked. Demographic characteristics of the 2 groups are provided. With those patients lost to follow-up considered as failures, the overall improvement in the earlier group was 52.6 percent with total abstinence being 36.8 percent. The overall improvement in the later group was 42.9 percent with a total abstinent rate of 35.14 percent. These statistics may be misleading because the percentage lost to follow-up in this later group was 40.8 percent. Those patients "who had both emetine and A.A. (had) a ratio of successes to failures of 98:13, compared with 16:17 for those who had neither emetine nor A.A.; those with emetine but not A.A. 17:16; Those with A.A. but not emetine 32:22. These figures (suggested) a synergistic effect between emetine treatment and A.A." However, A.A. seemed better alone than emetine alone.

- 30 Beca, M.F., and Secchi, S.  
 RESULTADO DE LOS TRATAMIENTOS ANTI-ALCOHOLICOS EN  
 CHILE. [Results of antialcoholic treatment in Chile.]  
 Revista de Psiquiatria, 12: 71-76, 1947.  
 Sp - res. - clin. study - tables - out-pat. - pat. - more ss. -  
 alcohol. - abst. - classical - chem. - indiv. - desc. treatm. -  
 apomor. - pilocar. - ephedrine A-2285.

Some reports of treatments by conditioned reflexes and injections of alcohol, exposed by Chilean and foreign investigators, are optimistic, others are pessimistic. The real utility of these methods must be further investigated. During treatment, a mixture of ephedrine chlorhydrate, pilocarpine, and apomorphine was injected, and minutes later each patient was offered his favorite drink. These sessions were repeated from 8 to 14 times. A social inquiry was undertaken for the patient, such as the age at which his habit began, its causes and evolution, the conduct of the patient, his social background, any treatment and its results, and the attitude of the family towards the patient before and after treatment. Out of the 13 cases treated by conditioned reflexes, 11 were hospitalized. From the statistics, it can be seen that the results were much better for the hospitalized patients. There was much greater success when the patient was removed from his usual environment which induced him to drink. In the hospital, there could take place emotional and behavioral re-education. The percentage of total successes for both therapies was greater than that of partial successes. The article is concluded by a discussion on how the environment influences the person. In Chile, there are not yet sufficient treatment centres, meaning that the problem of alcoholism has not yet received all the interest it deserves.

- 31 Beese, F.W.  
 ENTZIEHUNGSKUREN BEI ALKOHOLIKERN. [Withdrawal treatment of alcoholics.]  
 Öffentliche Gesundheitswesen, 23: 276-286, 1961.  
 G - gen. - clin. study - tables - pat. - more ss. - female - male -  
 alcohol. - abst. - classical - chem. - adjuv. - desc. side-effects -  
 desc. treatm. - disc. generaliz. - c.r., 45 - f.p., 3m. - r.r., 45  
 - apomor. - disul. - emetine A-2084.

The author discusses the treatment of alcoholics at his hospital in Berlin. He felt a multiple treatment program was important. Between 1950 and 1956, a reflex-treatment was employed; however, this was found to provide less favorable results. The patients were given .075 gr. of Emetine and, after nausea had set in, they were given alcohol. After 2 or 3 glasses, .01 gr. of apomorphine was in-

jected. Nausea and vomiting would then last for 2 to 4 hours. Treatment lasted from 4 to 21 days. The program was dropped after 1956 with a failure rate of 52 percent and replaced by the use of Disulfiram. Hospitalization was felt important as it removed the alcoholic from his environment, allowed him to be kept under supervision, and allowed for group therapy sessions. Of the 146 patients treated, 11 had conditioned reflex treatment, 15 combined reflex and antabuse treatment, 104 only antabuse treatment, and 16 had antabuse treatment plus emetine and apomorphine. Of the 52 patients treated between 1950 and 1954, 15 percent were successfully treated, 31 percent had average success, and 54 percent were failures. Of the 94 patients treated between 1955 and 1960, 16 percent were successfully treated, 45 percent had average success, and 39 percent were failures. Factors which were considered to govern the success rate were: 1) length of drinking problem, 2) personality, and 3) number of follow-up sessions after release from hospital. The author was optimistic because by 1960, the success rate had increased from 31 to 45 percent and the failure rate had decreased from 54 to 39 percent.

## 32 Bhakta, M.

## CLINICAL APPLICATION OF BEHAVIOUR THERAPY IN THE TREATMENT OF ALCOHOLISM.

Journal of Alcoholism, 6(3): 75-83,

1971.

E - gen. - gen. disc. - more ss. - female - male - alcoh. - abst. - classical - electro. - desc. treatm. - disc. theo. treatm. - c.r.,  
10 - f.p., 1y. B-3202.

The author states that "in terms of behavior therapy, alcoholism and drug dependence are seen as learned responses and they should be amenable to methods effective in unlearning the habits or discouraging the responses." The author goes on to show the 2 conditioning paradigms which are used and discusses the behavioral techniques in the management of alcoholism. These include: systematic desensitisation, aversion therapy-chemical aversion and electroaversion, combined aversion and relaxation, use of chemical agents, covert sensitization, audio-visual aversion, and assertive training. The author treated an unselected group of 11 male and 9 female alcoholics with electrical aversion therapy. For the following periods the number of subjects abstinent were: end of treatment 3; at 3 months, 3; at 6 months, 2; and at 12 months, 1. The number of controlled drinkers were: end of treatment, 8; 3 months, 8; 6 months, 9; and at 12 months, 7. The number of uncontrolled drinkers were 9, 9, 9, and 12. The results were rather disappointing but the author concluded that booster therapy seemed to be of importance.



- 33 Bigelow, G. , Cohen, M. , Liebson, I. , and Faillace, L. A.  
 ABSTINENCE OR MODERATION? CHOICE BY ALCOHOLICS.  
 Behaviour Research and Therapy, 10: 209-214, 1972.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 mod. - operant - pos. reinfor. - group - desc. treatm. - goal  
 establis. B-3151.

Specific findings from a sequence of experiments are introduced by a discussion of the desirability of considering moderate drinking, rather than abstinence, as the goal in the treatment of alcoholism. Reports of alcoholics and former alcoholics learning to drink moderately are presented. Nineteen male alcoholic volunteers were placed in a token economy behavior-research ward. They were allowed to consume up to 24 ounces of 95-proof alcohol per day but, during contingency periods, were given access to an 'enriched' environment if they consumed less than 5 ounces of alcohol per day. The enriched environment consisted of being able to use the recreation room, socialize with the staff and other patients, participate in group therapy, receive visitors, have a chair and reading materials in their rooms, work to earn money, and to eat a regular diet. In the impoverished environment the patients lost all of these privileges. During the non-contingency periods, all subjects drank excessively. However, excessive drinking occurred on only 9.7 percent of the contingent subject-days. Furthermore, the subjects chose to abstain on 13.7 percent of the contingency period days and elected to drink moderately 76.6 % of the time. This overall preference for moderation was significant. A table of the results is presented. These experiments give evidence that alcoholics are able to drink moderately and that contingency management procedures are of value in the treatment of alcoholism.

- 34 Bigelow, G. , and Liebson, I.  
 COST FACTORS CONTROLLING ALCOHOLIC DRINKING.  
 Psychological Record, 22: 305-314, 1972.  
 E - res. - clin. study - pat. - few ss. - male - alcohol. - mod. -  
 operant - pos. reinfor. - desc. treatm. - goal establis. B-3200.

The authors carried out two experiments to determine the controllability of alcoholic drinking and to determine mechanisms by which this drinking could be controlled. Experiment one consisted of two patients who stayed in the hospital behavioral research ward. They were allowed to earn alcohol for consumption, 24 hours per day, by operating a "Lindsley" lever requiring that different fixed ratio requirements were fulfilled. The fixed ratio (FR) schedule was FR 100 for 1 day, FR 3,000 for 4 days, FR 1000, for 4 days,

FR 100 for 2 days and FR 5,000 for 3 days. One ounce of 95-proof ethanol in 2 ounces of orange juice was provided after the completion of each FR requirement on the lever. It was found that as the FR requirement increased, each subject showed a progressive decline in the amount of alcohol they drank. Figures are provided. "Both Ss' work output was less at FR 5,000 than at either FR 1,000 or FR 3,000." The second experiment consisted of four subjects who started off each morning with 12, 12, 15, and 18 tokens respectively. During the control phases of the experiment The price of drinks was always 1 token each. During the experimental phases, a progressive cost schedule was employed in which the price of drinks increased if the subject drank more than 2 drinks in a single hour. In each case, the progressive cost conditions were effective in reducing the frequency of high-density, concentrated drinking. Figures are provided showing the number of drinks each day exceeding 2 per normal hour for each subject. For the three subjects analyzed, the proportion of temporally spaced drinks was greater during the progressive-cost conditions than during the control phases of the experiment. The difference was statistically significant. The results indicated that "alcoholism was a controllable behavioral process" and that "cost, in the form of physical effort, and economic cost in a token situation were both successful in altering alcoholics' drinking behavior."

35 Binder, S.

ZU NEUEREN THERAPEUTISCHEN ANSÄTZEN BEI ALKOHOL-KRANKEN. [Recent therapeutic tendencies in alcoholics.]

Zeitschrift für Psychotherapie und Medizinische Psychologie, 21(6): 239-247,

1971.

G - gen. - gen. disc. - out-pat. - pat. - more ss. - alcoh. - abst.  
 - electro. - hypn. (aver.) - hypn. (gen.) - syst. desens. - combin.  
 - indiv. - group - desc. treatm. - goal establis. B-3712.

The article begins by dividing the development of alcoholism into two groups, classical conditioning and operant conditioning. Three methods of treating alcoholism are then described. 1. electric aversion therapy, 2. hypogenetic corroboration therapy and 3. married couple therapy. 1. The electric aversion therapy is described as symptomatic and it is also designed so that the relapse rate is reduced as much as possible. Resignation, self-reproach, and guilt feelings are diminished. This (small, usually 2 patients and 2 doctors) group therapy is carried out in a room which is made to resemble a local pub. Electrodes are fastened to the arms of the patient and if he reaches for an alcoholic drink, he experiences a shock. However, if he reaches for the coffee or juice, which is also provided, he is indirectly praised. Each session lasts 20-30



minutes and is followed by an informal discussion. 2. During the hypnotic therapy various elements are employed; systematic desensitization, a positive systematic strengthening and autogenous training. A description of the procedure follows. The session is repeated every day with the same tape. 3. The married couple therapy enables the patient to cope better with his personal problems. Marital, personal, etc. problems are exposed and discussed. However, there are a few problems with this therapy. The wife (or husband) of the alcoholic, on the average, came only once every 3 weeks to a session, which means that during a 6 month treatment, only 6 - 9 sessions are possible. The wives often have a negative attitude towards the therapy, and do not always feel that they must accept part of the blame. The success of this treatment depends largely on the accomplishments in the smaller group therapy (#'s 1 & 2). It is difficult to estimate the results of this therapy, but out of 19 couples, one decided to separate, several dropped out and others felt that many of their problems were solved.

- 36 Blachly, P. H.  
 AN "ELECTRIC NEEDLE" FOR AVERSIVE CONDITIONING OF  
 THE NEEDLE RITUAL.  
 International Journal of the Addictions, 6(2): 327-328, 1971.  
 E - gen. - gen. disc. - drug. addict. - abst. - classical - electro.  
 - group - desc. treatm. B-3759.

The author describes an "electric needle" used to combat the compulsive needle or injection habit of drug addicts through aversive conditioning. "The talking therapies have seemingly been unable to break into this compulsive habit." "It (consisted) of a simple 2 1/2 cc. plastic syringe modified by the attachment of electric wires in such a way that when the plunger (was) pressed electrical contact (was) closed, permitting the delivery of an electric shock---." Intensity of the shock was adjustable. Group sessions, in which everyone received a shock as one person "fixed up" with a saline solution, were being tested.

- 37 Blake, B. G.  
 THE APPLICATION OF BEHAVIOUR THERAPY TO THE  
 TREATMENT OF ALCOHOLISM.  
 Behaviour Research and Therapy, 3: 75-85, 1965.  
 E - gen. - clin. study - tables - pat. - more ss. - female - male -  
 alcohol. - abst. - classical - electro. - relax. - combin. - indiv. -  
 group - desc. treatm. - disc. theo. addict. - disc. theo. treatm. -  
 goal establis. - c. r., 55 - f. p., 3m. - r. r., 35 - d. r., 8 B-3152.

A learning theory basis of alcoholism, the theoretical basis of behavior therapy, and the results of a combined relaxation - aversion treatment for 37 male and female alcoholics are presented. The author states that little support has been substantiated for the disease concept of alcoholism. Alcohol may initially serve a drive-reducing function with unrelated psychological disturbance until alcoholism, itself, causes psychological disturbances that must be reduced. Previous writers have stated that there is little chance of abstinence in alcoholics who have undergone aversion therapy for their drinking unless the original drives, such as fear and anxiety, that motivates the drinking are dealt with. Thirty-seven male and female alcoholics undertook relaxation, motivation arousal, and aversion conditioning sessions lasting 3 to 4 weeks. A lengthy description of the group of subjects is given. The electrical aversion therapy extended over 4 to 8 days and a partial reinforcement schedule was used. On a reinforcement trial, the subjects was asked to sip an alcoholic beverage. Contiguous to this, was a shock of increasing intensity, starting above the uncomfortable level for the subject, that terminated only when the subject had spit out the drink. On non-reinforcement trials, the subject was also instructed to spit out the alcohol after tasting it. After 6 to 12 month follow-ups, the results were: abstinent, 54 and 52 percent; relapsed, 38 and 36 percent; and no information or opted out of therapy, 8 and 12 percent, respectively.

38 Blake, B. G.

A FOLLOW-UP OF ALCOHOLICS TREATED BY BEHAVIOUR THERAPY.

Behaviour Research and Therapy, 5:89-94, 1967.  
 E - res. - clin. study - tables - pat. - more ss. - female - male -  
 alcohol. - abst. - classical - electro. - relax. - combin. - goal  
 establis. - c.r., 55 - f.p., 3m. - f.p., 9m. B-3153.

A combined relaxation-aversion therapy was compared with electrical aversion therapy alone in the treatment of alcoholics. The experimental and control groups were made up of 37 and 27 male and female alcoholics, respectively, who were comparable in regards to age, sex, socioeconomic class, chronicity, previous hospitalization for alcoholism, psychiatric diagnosis, and intelligence. Follow-up studies were carried out after 6 and 12 months and the following outcome categories were used: abstinent, improved, relapsed, and other. Tables of the results are provided. The 59 percent of the combined therapy group and the 50 percent of the aversion therapy group who were classified as either abstinent or improved were not significantly different. Looking at the subjects in both groups after the 12 month follow-up period, 56%

classified as abstinent or improved. After a mean follow-up period of 2 1/4 years and 1 1/2 years for the combined therapy group and the aversion therapy group, respectively, the percentage of these two groups which were classified as abstinent or improved was 47 and 54 percent.

- 39 Blanchard, E.B., Libet, J.M., and Young, L.D.  
 APNEIC AVERSION AND COVERT SENSITIZATION IN THE  
 TREATMENT OF A HYDROCARBON INHALATION ADDICTION:  
 A CASE STUDY.  
 Journal of Behavior Therapy and Experimental Psychiatry, 4(4):  
 383-387, 1973.  
 E - res. - clin. study - pat. - few ss. - male - drug addict. -  
 abst. - classical - chem. - vis.-verbal - combin. - indiv. - desc.  
 treatm. - disc. probl. pat. - goal establis. - f.p., ly. -  
 succinyl. B-3750.

A clinical report is presented in which a 19 year old man was treated with apneic aversion and covert sensitization for his addiction of sniffing spray paint. The patient's case history is described. "In the year before treatment, when not institutionalized, he had spent 1-8hr. per day sniffing paint 6 or 7 days a week." In the past 4 years, he had received "individual psychotherapy of a psychoanalytic nature---", group psychotherapy, covert sensitization, family therapy, and hospitalization. Measures were recorded before and during treatment. Measures were: 1) the length of time spent smelling each of 7 substances he was supposed to rate according to his reactions to its odour, with the use of a rating scale, and 2) the time actually spent sniffing the spray paint when given 20 minutes free access to it. During the first 9-day baseline period, no treatment was given. During the next 12 days, a total of 16 sessions of covert sensitization were given either once or twice a day. During the next 10 day phase, covert sensitization was discontinued and 4 anectine-induced apnea sessions were given. During the sessions, he would receive 20 mg. of succinylcholine chloride as he brought the bag containing the spray paint to his nose. During the last 6 days, covert sensitization sessions were given daily. A baseline period was to follow except it terminated when the subject left the ward and returned with beer and lighter fluid. The first series of covert sensitization treatments led to an initial slight decrease in the measures recording the length of his sniffing periods. However, these values returned to the pre-treatment level. During the apneic aversion trials the values of these measures decreased to almost zero. During the second covert sensitization period, the values of the behavioral measures remained almost zero. When the second baseline phase was terminated, "it was felt that the treat-

ment had had very limited success, eliminating one form of inhalation abuse but leaving others untouched." However, during the follow-up year, the patient showed much functional improvement and had refrained from sniffing paint solvent.

- 40 Block, M.A.  
 MEDICAL TREATMENT OF ALCOHOLISM.  
 Journal of the American Medical Association, 162: 1610-1619, 1956.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 treatm. - disc. theo. treatm. - apomor. - emetine A-2227.

Medical treatment of alcoholism, with the assistance of a variety of drugs, is discussed in this paper under the following headings: Acute alcoholic intoxication, hospitalization, Evaluation of the patient's condition, Drugs that stimulate the central nervous system and counteract depression, Drugs that depress the central nervous system, hormonal products, Other considerations in treatment of acute alcoholic intoxication, Treatment of the alcoholic not in the acute stage, Disulfiram therapy, Conditioned response therapy, and Complications of chronic alcoholism. The drugs dealt with in some detail in this paper are: the amphetamines, tranquilizers, adrenal cortex extract, paraldehyde, chloral hydrate, barbiturates, disulfiram, and emetine. The more frequent complications of chronic alcoholism discussed in this paper are hallucenosis, delirium tremens, acute gastritis and enterities, varices of the esophagus and cardiac end of the stomach and cirrhosis of the liver. In the section of conditioned responses therapy, the author outlines generally the theory and method of this treatment. Emetine or apomorphine are given either orally or by injection to the patient. These drugs cause him to become ill, Under proper management, the patient is given alcohol and is followed by severe retching and vomiting. This association is repeated several times. "The theory is that, after a number of such experiences, the patient will automatically refrain from drinking alcohol for fear of the consequences." Reports have indicated variable degrees of success.

- 41 Boittelle, G., Boittelle-Lentulo, Cl., Singer, L., and Dany, L.  
 RESULTATS DE DEUX ANS DE TRAITEMENT ANTI-ALCOOLIQUE  
 AU SERVICE LIBRE DE L'HOPITAL PSYCHIATRIQUE DE  
 LORQUIN. [Results of two years of anti-alcoholism treatment at  
 the free service of the psychiatric hospital of Lorquin.]  
 Annales Medico-Psychologiques, 110(1): 348-352, 1952.  
 F - gen. - clin. study - out-pat. - pat. - more ss. - alcoh. - abst.



- classical - chem. - indiv. - desc. treatm. - c.r., 10 - f.p., ly.  
 - r.r., 45 - apomor. - disul. A-2076.

The procedure and results of two years of alcoholism treatment at the free service at the psychiatric hospital of Lorquin are described. Patients are referred there by their physicians, and after being sobered up they are given the option of continuing with a de-conditioning therapy. Apomorphine (usually 6 mg.) is injected subcutaneously every 2 hours after ingestion of alcohol causing vomiting. This leads to distaste and after 4 days patients are given injections of curethyl B, sometimes in combination with syncortyl to improve their physical state. After 8 days they are discharged and given tetraethylthiuram disulphide to remain in contact (if only by letter) as a means of control. Cure rate was 15% after a year. Reasons for relapse are discussed, concentrating on those cases not subject to the "classical" conditions which account for failure to overcome problems with alcohol (slums, poor or non-existent family milieu). Since the reflex caused by the apomorphine are blunted after several months and the patient stops taking the tetraethylthiuram disulphide, he finds he can drink without any particular disagreement. Thus it is up to the patient himself to stop drinking, and in order to maintain this will, psychotherapy is suggested to deal with the unconscious motivations to drink.

42 Book, H. E.

# HYPNOSIS, AVERSIVE CONDITIONING AND TRANSFERENCE IMPROVEMENTS.

American Journal of Clinical Hypnosis, 16(4): 256-260, 1974.  
 E - gen. - case disc. - out-pat. - few ss. - male - drug addict. -  
 abst. - classical - electro. - hypn. (aver.) - indiv. - desc. treatm.-  
 disc. theo. treatm. B-3815.

The author provides a definition for transference and discusses this psychological concept as it influences the therapist-patient relationship. A case description is presented which "illustrates how changes in conduct, although initially attributed uniquely to aversive conditioning, many actually be also strongly related to the transference relationship." The aversive treatment, first using hypnosis and then electrical aversion therapy, of a 21-year-old amphetamine abuser is described. In a trance, he was asked to experience the sensation of "hitting up" and then associating this experience with feelings of nausea and the desire to vomit. After repeating this 5 times in one hour, his use of amphetamines was greatly reduced over the following month. After this time, an extremely unpleasant electrical shock was associated with his "hallucinated act of 'hitting

up'. " Over 90 minutes, he imagined taking amphetamines 18 times and received the noxious shock 9 times. The man's situation improved for up to 3 months until the therapist moved away, and the patient's condition deteriorated. The author points out how this treatment gratified the patient's atoning needs and guilt and how it presented the patient with a male figure who punished but "did not annihilate him as he feared. "

43 Boudin, H. M.

CONTINGENCY CONTRACTING AS A THERAPEUTIC TOOL IN THE DECELERATION OF AMPHETAMINE USE.

Behavior Therapy, 3: 604-608,

1972.

E - gen. - case disc. - out-pat. - few ss. - female - drug addict. - abst. - operant - pos. reinfor. - desc. treatm. - disc. probl. pat. - goal establis. - f. p. , ly. B-3793.

A case report is presented in which a black female Ph. D. student entered a contingency contractual agreement with her therapist in an effort to cut down her use of amphetamine. She had been taking amphetamine daily requiring the use of barbiturates at nights to get some sleep. With the fear of being physiologically addicted to barbiturates, she requested help. A 3 month contingency contract was drawn up stating she would have to keep her therapist continuously informed of her whereabouts; she would have to tell him in advance of any high risk situations she might enter and she would contact him when she was in a high risk situation where amphetamines were available. The therapist agreed to be accessible and available 24 hours a day and, along with other conditions, and had to provide 10 signed checks in the amount of 50 dollars each. For any drug use or suspected drug use, a 50 dollar check would be sent to the Ku Klux Klan. After the first 3 days, the girl became furious and wanted out of the agreement. However, after some discussion she was calmed down. Only once, while her therapist was on a camping trip and she got together with her boyfriend who also used amphetamine, did she take amphetamines and subsequently lost 50 dollars. At the end of the 3 month period, the girl left for Africa and, on her return after 12 months, indicated she had not used amphetamines although they had been handy. Due to academic and economic pressures, she had a desire to return to drug use but set out to arrange another contractual agreement. "The effort involved on the part of the therapist in terms of responding to crises at any and all times during the contractual period was overwhelming." It could possibly be eased by using a number of volunteers, trained appropriately to look after the situations 24 hours a day and 7 days a week. It has been said that the drug user switches his dependency from drugs to the therapist and the contract. However,



if the conditions are flexible enough, the patient can be given more freedom, to facilitate as independent relationship with the therapist and contract as the drug user progresses.

- 44 Bowman, K. M. , and Jellinek, E. M.  
 ALCOHOL ADDICTION AND ITS TREATMENT.  
 Quarterly Journal of Studies on Alcohol, 2: 98-176, 1941-42.  
 E - gen. - gen. disc. - review - tables - alcoh. - abst.  
 classical - chem. - desc. treatm. - disc. probl. pat. - disc. theo.  
 addict. - disc. theo. treatm. A-1965.

In this lengthy article, alcoholism and its treatment are discussed under the following headings: Definitions of Chronic Alcoholism and Alcohol Addiction; The Etiology of Alcohol Addiction, The Function of alcohol, Physiological views, Personality factors, The classification of abnormal drinkers, The tolerance factor, Social factors; The Treatment of Alcohol Addiction, Intramural versus extramural treatment, The problem of withdrawal of alcohol, Treatment by means of Drugs, The psychotherapeutic approach, Prognostic criteria and estimates of therapeutic success, and Outlook. In this paper, a great many articles are made reference to. Under the heading Treatments By Means of Drugs, the authors make reference to those articles that had dealt with the conditioned reflex treatment of alcoholism. A description of the method of one such treatment is presented in which strychnine injections, and then apomorphine injections together with a glass of vodka were given to the patients. When the patients became ill, they were led to believe it was due to the drink. This was repeated 10 to 20 times but only 2 out of the 22 subjects remained abstinent. At that time, questions as to the importance of the stimulating effects of apomorphine in the treatment of alcoholism arose. Many experimenters failed to obtain encouraging results from this type of treatment. Then Voegtlin, Lemere and Broz reported that 64 percent of 685 unselected patients remained abstinent for at least four years after treatment. Those researchers stressed the necessity for an exact technique following the principles of conditioning theory. However, another researcher felt that once a patient realized his dislike for alcohol was being caused by a drug, the aversive effect would be lost.

- 45 Braun, F.  
 ZUR BEHANDLUNG DES CHRONISCHEN ALKOHOLISMUS. [On  
 the treatment of chronic alcoholism.]  
 Der Fuersorger, 19: 39, 1951.  
 G - gen. - gen. disc. - out-pat. - alcoh. - abst. - classical - chem.

- desc. treatm. - apomor.

A-2356.

The treatments used today, with antabuse, apomorphine, or emetine, aim at producing a permanent aversion against alcohol. Dr. Luckner (1679-1741) from Winterthur, used a similar method, but without medication. He was also well known for treating the mentally ill, trying to understand and help them. Dr. Luckner succeeded in curing wine and brandy addicts in a short time. The method was simple: the patient was locked in a room and offered as much wine and brandy as he liked. All meals were prepared with wine or brandy. Thus the patient was always in a drunken situation. In a few days he was so disgusted with alcohol, which he was nevertheless persuaded to drink. Soon it was impossible for him to continue drinking, and the mere sight of alcohol provoked nausea. Until now, the apomorphine treatment had been understood in the sense of a conditioned reflex (Pavlov), but maybe it was rather a question of a physiological aversion, created by medication, against everything that had to do with alcohol.

46 Brierly, H.

#### ELECTRICAL AVERSION THERAPY.

British Medical Journal, 1(5383): 631,

1964.

E - lett.ed. - gen. disc. - alcohol. - abst. - classical - electro. - desc. side-effects

A-1999.

The writer of this letter feels that it is unfortunate if readers of other papers discussing electrical aversion therapy get the notion that this treatment is simple. Writing on the basis of his three years of experience, he feels that many patients are not motivated enough to co-operate in treatment of this kind. Also, due to individual variation of sensitivity to shock, careful supervision is necessary so that the shocks are not too intense nor too mild. Care must be taken as this type of treatment could lead to the development of neurotic symptoms in prone patients or lead to further drinking as alcohol is anxiety-reducing. The writer points out clearly that this treatment is certainly not inhuman.

47 Bryant, M. E.

#### THE TREATMENT OF ALCOHOLICS BY HYPNOSIS.

British Journal of Medical Hypnotism, 9: 40-42,

1958.

E - gen. - case disc. - gen. disc. - out-pat. - few ss. - female - male - alcohol. - abst. - hypn. (gen.) - adjuv. - indiv. - desc. treatm. - goal establis.

A-2019.

The author describes his treatment of alcoholics using suggestive-hypnosis. He found that 85 percent of alcoholics can be hypnotized. The alcoholics who resided in the author's vicinity were gradually taken off alcohol as the following program of hypnotic suggestion was given: forget, suppress all unhappiness of the past, and eat many times a day. Food and vitamin intake had to be increased to improve the patient's health. Those alcoholics who lived a far distance away, were treated for 48 hours and then returned home with a friend or relative who had been instructed in how to induce a hypnotic trance in the alcoholic. The sole purpose of this was to keep the alcoholic from drinking or desiring to drink. If the alcoholic sincerely wanted to quit, this treatment approach would be successful. For some patients, a daily dose of antabuse was recommended so that they would realize that they had better not drink. With the use of vitamins and other drugs such as Epsom salt tablets and El-Acosto Gel, there was no evidence of delirium tremens in the heavy drinkers treated. Short case descriptions of a woman and man who had been treated in this fashion and who had remained abstinent for 2 months and 2 years, respectively, are presented. This type of treatment was fast, economical, and worth more investigation.

- 48 Bugaiskii, I. P.  
 OB ODNOI IZ ZADACH PSIKHONEVROLOGICHESKOGO  
 DISPANSERA. [On one of the tasks of the psychoneurological  
 dispensary.]  
 Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 52(7):  
 65-66, 1952.  
 R - gen. - gen. disc. - pat. - more ss. - male - alcoh. - abst. -  
 classical - chem. - desc. treatm. - disc. contraind. -  
 apomor. A-2068.

The subject of active alcoholic treatment of patients after having experienced acute alcoholic psychoses has been neglected. Nothing has appeared in the literature in Russia or foreign countries in the past few years. The author examined 50 male patients. Thirty-nine patients had experienced a psychosis only once while the others were varied. Some of the patients who had delirium tremens and hallucinations had experienced psychic disorders lasting from several hours to several days. Six patients were treated by the conditioned-reflex method with the administration of apomorphine and using an alcoholic-tethuramic test. The treatment sessions were held daily with the dose of apomorphine increasing from 0.1, at the beginning, to 0.4 mg. of apomorphine near the end of treatment. Only the small doses were used with those patients who suffered from complications. The results of this treatment were considered

positive with the patients told to return for further treatment if they should happen to relapse.

49 Burt, D. W.

CHARACTERISTICS OF THE RELAPSE SITUATION OF ALCOHOLICS TREATED WITH AVERSION CONDITIONING.

Behaviour Research and Therapy, 12(2): 121-123, 1974.

E - res. - clin. study - pat. - more ss. - female - male - alcohol. - abst. - classical - chem. - adjuv. - desc. treatm. - disc. generaliz. - disc. theo. treatm. - goal n. establis. - emetine B-3752.

The author considered an alcoholic's drinking location, type of beverage, and whether his drinking was social or not, to be important characteristics of an alcoholic's learning history. In addition, he briefly mentioned the principle of stimulus control and stated that this principle "suggests that alcoholic treated with aversion therapy would tend to relapse under environmental conditions that were in some way different from their using drinking environments." In this regard, the author interviewed alcoholics who had relapsed following chemical aversion conditioning to determine if the alcoholics first post-treatment drink matched his preferred drink before treatment, if the environment in which he took his first post-treatment drink matched his pre-treatment environment, and if his post-treatment social drinking context matched his pre-treatment one. The patients included 30 male and 4 female alcoholics. Each were given between 10 and 30 pairings of nausea, produced by emetine hydrochloride, with various alcoholic beverages, predominantly the patients' favorite beverage. On alternate days, the patients received a psychiatric interview under sodium pentothal. The author used a "Relapse Questionnaire" to standardize his interviews with these patients. He found that the mean length of sobriety of those alcoholics was 17.6 months with a range of 1/2 to 93 months. In addition, he found that 62 percent (and 75 percent) of the patients reported that their first post-treatment drink was the same as their first preference (and first or second preference) before treatment. The results also supported the principle of stimulus control in that approximately 81 percent took their first drink in other than their usual location. Lastly, an equal number of patients relapsed alone and with others. These results indicated that more emphasis was needed on aversive pairing with the alcoholic's preferred beverage but that a variety of settings should be used in treatment to insure generalization of treatment effects, in this regard.

- 50 Cameroni, V.  
 ALCUNI ASPETTI MEDICO-LEGALI DEI METODI DISASSUEFAC-  
 ENTI DELL'ALCOOLISMO. [Medicolegal aspects of withdrawal  
 in treatment of alcoholics.]  
 Minerva Medicolegale, 72: 11-14, 1952.  
 I - gen. - case disc. - gen. disc. - pat. - more ss. - alcoh. - abst.  
 - classical - chem. - adjuv. - desc. treatm. - disul. A-2366.

Thirty percent of the 568 admissions to the Ospedale Neuropsichia-  
 trico di Varese, in 1949 and 1950, were for treatment of alcoholism.  
 Treatment, which consisted of conditioned-reflex therapy using  
 disulfiram, is described. The number of reactions required to  
 cause an aversion to alcohol varied among the individuals. Psycho-  
 therapy was considered necessary in addition to the conditioned-  
 reflex treatment. Also, the administration of disulfiram was con-  
 tinued after the patients left the hospital.

- 51 Carlson, A. J.  
 THE CONDITIONED-REFLEX THERAPY OF ALCOHOL  
 ADDICTION.  
 Quarterly Journal of Studies on Alcohol, 5: 212-215, 1944.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - adjuv.  
 - indiv. - desc. treatm. A-1944.

The author generally discusses the historical basis and the difficul-  
 ties in using the conditioned-reflex treatment for alcoholics. This  
 technique goes back to the work of Pavlov developing conditioned re-  
 flexes in dogs. A major problem is that the sickening antialcoholic  
 reflex may not be experienced until the patient is partly under the  
 influence of alcohol. This would effectively reduce the association  
 between the alcohol and the adverse effects experienced. The  
 author comments on the wide range of success reported using chem-  
 ical aversive conditioning and on the need for motivated patients  
 and adjacent therapies for higher rates of success. The true effec-  
 tiveness of this treatment is questioned. The major concern of the  
 paper is the explicit or implicit suggestion to the patients that  
 alcohol is making them sick, rather than the injection of emetine  
 given moments before. This approach is detrimental to the patients'  
 improvements when they realize that it was not really the alcohol  
 that made them vomit and feel nauseated. Secondly, there is no  
 need for lying in the medical or any other scientific field.



## 52 Caron, M. M.

## CONSIDERATIONS TIREES DE DIX ANS DE PRATIQUE DES TRAITEMENTS DE L'APPETENCE ALCOOLIQUE.

[Considerations drawn from ten years of practice in the treatment of alcoholic craving.]

Annales Médico-Psychologiques, 110: 227-232,

1952.

F - res. - clin. study - out-pat. - more ss. - alcohol. - abst. - classical - chem. - desc. treatm. - disc. contraind. - disc. generaliz. - apomor. - emetine

A-2093.

A study is presented in which 150 alcoholics were given conditioned-reflex treatment. Apomorphine was administered subcutaneously and was followed by 4 to 6 glasses of wine. Twenty to 30 semi-weekly sessions were required to produce aversion to alcohol. Any treatment period less than this was found to be ineffective. Emesis was not sufficient to get rid of all the alcohol taken so that detoxification had to be carried out with the aid of vitamins. It was found that the patients became tolerant to apomorphine so that larger doses had to be given or emetine had to be included. Few patients remained abstinent for years often relapsing after several weeks. Some just switch to another alcoholic beverage. Patients who do not suffer psychological complications and wish to be cured usually show good results.

## 53 Carratalá, R.

## EL TRATAMIENTO DEL ALCOHOLISMO. NUEVAS CONSIDERACIONES ACERCA DEL EMPLEO DEL ANTABUSE (DISULFURO DE TETRAETILTHIURAM). [Treatment of alcoholism. New considerations on the use of antabuse (tetraethylthiuram disulfide).]

Asociacion Medica Argentina, Revista, 64: 419-422,

1950.

Sp - gen. - gen. disc. - alcohol. - abst. - classical - chem. - desc. treatm. - disc. theo. treatm. - apomor. - disul. - emetine

A-2269.

The treatment of alcoholism requires: 1) the use of a distraction for drinking with other interests, such as reading, etc., 2) abstinence by therapeutic and pedagogical methods, 3) psychological treatments including hypnotism and psychoanalysis, 4) drug treatments, and 5) aversion treatments. Conditioned reflexes are aimed at obtaining a repulsion against alcohol. The article mentions autohemotherapy, wine with ipeca, apomorphine as a vomitive, insulin, indirect serotherapy, the use of chlorhydrate of emetine, etilotherapy which eliminates the "state of necessity" of the patient, and Antabuse which provokes a sensitivity of the organism to a very small amount of alcohol. Antabuse has unpleasant effects on the patient and is considered dangerous, especially for its cardiac repercussions.



The proportion of acetaldehyde in the body rises 4 to 11 times above the normal. There can be severe reactions, such as comas, or cardiac angina, thus the Antabuse treatment must be closely observed and controlled. Several investigators are mentioned who give their comments on Antabuse and suggest corrective actions for neutralizing its effects. There may be substitutes for this drug, including animal carbon.

54 Carratalá, R.

EL TRATAMIENTO DEL ALCOHOLISMO. NUEVAS CONSIDERACIONES ACERCA DEL EMPLEO DEL ANTABUSE (DISULFURO DE TETRAETILTHIURAM). [The treatment of alcoholism. New considerations on the use of antabuse (tetraethylthiuram disulfide).] Hospital, 40: 93-100, 1951.  
Sp - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc. treatm. - disc. theo. treatm. - apomor. - disul. - emetine A-2326.

The treatment of alcoholism requires: 1) the use of a distraction for drinking with other interests, such as reading, etc., 2) abstinence by therapeutic and pedagogical methods, 3) psychological treatments including hypnotism and psychoanalysis, 4) drug treatments, and 5) aversion treatments. Conditioned reflexes are aimed at obtaining a repulsion against alcohol. The article mentions autohemotherapy, wine with ipeca, apomorphine as a vomitive, insulin, indirect serotherapy, the use of chlorhydrate of emetine, etilotherapy which eliminates the "state of necessity" of the patient, and Antabuse which provokes a sensitivity of the organism to a very small amount of alcohol. Antabuse has unpleasant effects on the patient and is considered dangerous, especially for its cardiac repercussions. The proportion of acetaldehyde in the body rises 4 to 11 times above the normal. There can be severe reactions, such as comas, or cardiac angina, thus the Antabuse treatment must be closely observed and controlled. Several investigators are mentioned who give their comments on Antabuse and suggest corrective actions for neutralizing its effects. There may be substitutes for this drug, including animal carbon.

55 Carrère, J.

LE PSYCHOCHOC CINEMATOGRAFIQUE. PRINCIPES ET TECHNIQUE. APPLICATION AU TRAITEMENT DES MALADES CONVALESCENTS DE DELIRIUM TREMENS. [Cinematographic psychoshock. Principles and technique. Application to the treatment of convalescent patients of delirium tremens.] Annales Médico-Psychologiques, 112: 240-245, 1954.

F - gen. - clin. study - few ss. - male - alcohol. - abst. - operant -  
desc. treatm. - goal establis. A-2248.

During psychiatric treatment, it was often found that the patient did not realize the seriousness of his behavior, or simply refused to believe it. The cinematographic psychoshock shortened the psychotherapy considerably, by projecting before the patient his different attitudes during the psychotherapy, thus giving him a clearer idea of his behavior. The principle consists of filming the patient during his abnormal behavior, and showing him the film when he is lucid. This procedure may prevent a relapse in the alcoholic. A chronic alcoholic may become convinced of the dangers of alcoholism. Two cases are described, in which the film was shown to two alcoholics. The patients did not remember anything but were nevertheless shocked at their behavior. A conversation between the patient and the doctor followed the projection of the film. The patients were completely against alcohol and promised to abstain. A short discussion follows, in which it is mentioned that this type of treatment is not always successful, and has to be carefully planned.

- 56 Carrère, J., Caignou, J.-C., and Pochard  
DE QUELQUES RESULTATS DU PSYCHOCHOC CINEMATO-  
GRAPHIQUE DANS LA PSYCHOTHERAPIE DES DELIRIUM ET SUB-  
DELIRIUM TREMENS ALCOOLIQUE. [On some results of  
cinematographic psychoshock in the psychotherapy of alcoholic  
delirium and sub-delirium tremens.]  
Annales Médico-Psychologiques, 113: 46-51, 1955.  
F - gen. - case disc. - clin. study - more ss. - alcohol. - abst. -  
operant - desc. treatm. A-2255.

The principles and techniques of cinematographic psychoshock have been explained in a previous article. The author provides, in this paper, some results of these treatments. Since 1951, 415 patients have been treated for chronic alcoholism in the psychiatric hospital of Fleury-les Aubrais. 84 of these suffered from sub-delirium or delirium tremens. 6% of the patients have died due to very poor health. Seven cases are explained; some alcoholics first underwent a treatment with apomorphine and disulfiram and then the cinematographic psychoshock. If the physical condition of the patient was poor, he may have been treated only with the projection of the film. One patient relapsed due to his social and professional environment which made it impossible for him to abstain. In one case, a patient had been treated with apomorphine and disulfiram but began to drink wine again in moderate quantities. One month later the film depicting his abnormal behavior was shown to him and his wife, shocking them deeply. This patient then remained abstinent. A discus-

sion on the advantages of this treatment follows. It may be possible to omit the treatments with apomorphine and esperal, and to work only with the film.

- 57 Carrère, J.  
 PSYCHOGENIE DE L'ALCOOLISME ET ATTITUDE PSYCHOTHERAPIQUE. [ Psychiatric origin of alcoholism and psychotherapeutique attitude. ]  
 Annales Médico-Psychologiques, 116: 481-495, 1958.  
 F - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
 - vis. - verbal - desc. treatm. - goal établis. - c. r., 45 -  
 r. r., 25 A-2249.

Different reasons for alcoholism are discussed with respect to the individual in society. The psychotherapy performed by using a film of the patient's abnormal behaviour is very easy and very effective, and at the same time the psychological mechanism of this period can be analysed. Since 1954, 65 patients have been treated by this method. 29 became abstinent, 9 improved considerably, 24 relapsed, and 3 have not been seen again. Out of the 29 successful cases, 18 have been treated by the film alone, without apomorphine or esperal. One alcoholic had relapsed from a normal treatment with apomorphine and antabuse, and was then successfully treated by showing him the film. 65 examples of alcoholics and their treatments are given in tables, showing their social positions and results of the treatments. Social and environmental factors which may cause alcoholism are discussed, mentioning the anxieties in today's world, in which people hesitate between drugs and tranquilizers. In some cases, it is not wise to treat a patient with cinematographic psychoshock, since the images may be more violent than he can stand.

- 58 Carter, H. R.  
 CONDITIONED REFLEX TREATMENT FOR ALCOHOLIC ADDICTION.  
 Rocky Mountain Medical Journal, 40: 318-321, 1943.  
 E - gen. - gen. disc. - pat. - female - male - alcoh. - abst. -  
 classical - chem. - indiv. - desc. treatm. - disc. contraind. -  
 disc. probl. pat. - emetine - pilocar. - ephedrine A-2035.

The author provides a few paragraphs on the effect of alcohol on drinkers. He cites other authors who feel that alcoholics can be divided into two groups. The first is "composed of debilitated, indifferent, and coarse persons" who drink for pleasure and to rid

themselves of depressions. The second group consists of psychopaths who are unable to stop drinking after they begin. It is believed that certain alcoholics could satisfactorily deal with life if they were rid of their alcoholic addiction. For these people, the conditioned reflex treatment provides a quick and economical therapy. The results have been found to be equal to or better than other methods presently used. A technique is outlined in which the sight, smell, and taste of liquor is coordinated with nausea, caused by the drug emetine, and in which nausea and vomiting are increased with further drinking. Emetine hydrochloride is given to a patient both in capsule form and hypodermically. The emetine solution formula is provided. The real effects of this drug are not explained to the patient. The patient is placed in a quiet darkened room in which his attention is focused on the alcoholic beverages. With the onset of illness, the patient is instructed to slowly smell, taste, and sip a whisky, then wine, and later beer. As the nausea decreases, the treatment is terminated. Usually 4 to 8 treatments are required to gain a strong aversion to alcohol. Reinforcement sessions are provided at intervals of 2, 4, and 8 months after treatment. Physical contraindications to treatment are hernia, gastrointestinal ulceration or hemorrhage, cardiac conditions and coronary disease. Failures have consisted largely of patients under 30 years of age. Women are twice as difficult to treat as men. The number of patients have been too few and the follow-up period too short to provide statistical results.

## 59 Carver, A. E.

## THE MODERN TREATMENT OF ALCOHOLISM.

Medical Press and Circular, 208: 295-297,

1942.

E - gen. - gen. disc. - out-pat. - pat. - alcohol. - abst. - classical  
 - chem. - adjuv. - indiv. - desc. treatm. - apomor. A-2032.

The author presents a step by step approach for the treatment of alcoholic intoxication for the use of general practitioners. Apomorphine is mentioned as the drug to be used to cause vomiting for the emptying of the stomach, in smaller quantities to be used for its calming effect and its efficacy in enabling a patient to sleep, and to be used to attempt to counter-condition the addict to alcohol. This latter use is an attempt to associate the unpleasant effects of apomorphine with the taking of alcohol. This technique is not favoured by the author as it attacks alcoholism as a symptom without seeking to help the underlying instability of the alcoholic.



- 60 Carver, A.E.  
 HOW TO BREAK OFF ALCOHOL.  
 British Medical Journal, 1: 468, 1944.  
 E - lett. ed. - gen. disc. - alcoh. - abst. - classical - chem. -  
 disc. theo. treatm. - apomor. - emetine A-2047.

The writer of this letter, to the editor, suggests that any success due to the conditioned reflex method of treating alcoholics is due to suggestion rather than conditioning. First of all, "the number of repetitions is far too small to establish a conditioned reflex" and secondly, the success depends on the good will of the patient, himself. Although this highly disagreeable experience, brought on by emetine and apomorphine, "make the risk of repetition worth while avoiding", a conditioned reflex is not established. The writer feels that alcoholism is a symptom and that the underlying causes of it must be dealt with. Otherwise, there will be symptom substitution, the taking of other drugs or something even worse.

- 61 Carver, A.E.  
 BIOCHEMICAL FACTORS IN IDIOSYNCRASY TO ALCOHOL.  
 British Journal of Inebriety, 42(2): 65-83, 1945.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 treatm. - disc. theo. addict. - disc. theo. treatm. - apomor. -  
 emetine A-2215.

The author asks the following 3 questions: why does alcohol effect some people worse than others, why do some people continue to drink to excess while others continue to drink in moderation, and why does craving for alcohol desist in some and continue strongly in other people. These questions are discussed under the following headings: Effects due to factors accessory to alcohol, Carbohydrate oxydation, Endocrine factors, Electrical encephalography, The search for an antidote, Shock treatments, Contraconditioning, Apomorphine, and Allergy and hypersensitivity, From the headings used, it is apparent that the author deals with the biochemical aspects of alcoholism. Apomorphine produced emesis and deep sleep of from 2 to 4 hours' duration. American researchers turned this treatment into a highly suggestive ritual concurrently giving the alcoholic his favorite alcohol drink. Those researchers indicated that in this way a large proportion of alcoholic patients were cured. Subsequently, the ritual was made less elaborate and emetine was added to the apomorphine. The author felt this sort of treatment to be extremely unpleasant. The 4 to 7 treatments given over a 3 to 7 day period was felt to be too little to establish a conditioned reflex. But then, reinforcement sessions were provided at intervals during the first year. The author is pessimistic about this



therapeutic approach as it just deals with the symptom of excessive drinking and not its underlying causes. The author goes on to discuss the work of Pavlov in an attempt to understand what this man meant by the term "conditioned reflex". His discussion makes it clear why the author deplored "the invocation of his (Pavlov) 'conditioned reflexes' as an explanation of the value of apomorphine in addiction and other nervous disorders." The therapeutic effects of apomorphine could be due to its biochemical action upon the brain cells. Reference is made to the fact that apomorphine was useful in treating hysterical conditions in non-vomiting animals.

62 Catalano-Nobili, C.

LA CURA DELL'ALCOOLISMO CRONICO CON LA PROVACAZIONE DEI RIFLESSI CONDIZIONATI. [The treatment of chronic alcoholism by the production of conditioned reflexes.]

Policlinico, 57 (11): 337-340,

1950.

I - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
- chem. - desc. treatm. - goal establis. - apomor. A-2061.

The author describes a different type of conditioned reflex in the treatment of alcoholism. With little additional restraints placed on the patient, he receives an injection of .05 to 1.0 cg. of apomorphine every morning and then is asked to drink as much of his favorite alcoholic beverage as he can. After vomiting, the patient is allowed to sleep. This is repeated for 20 to 30 days. The reflex lasts from 3 to 12 months and may be prolonged through reinforcement sessions. This technique is advantageous in the comparative freedom which the patients experience. Eleven patients have been treated at the time of writing.

63 Cautela, J. R.

TREATMENT OF COMPULSIVE BEHAVIOR BY COVERT SENSITIZATION.

The Psychological Record, 16: 33-41,

1966.

E - gen. - case disc. - out-pat. - few ss. - female - alcoh. - abst.  
- classical - vis. - verbal - indiv. - desc. treatm. - disc. generaliz.  
- disc. probl. pat. - disc. theo. treatm. - goal establis. B-3717.

"Two prominent kinds of problems of neurotic individuals involve the avoidance of objectively harmless objects due to fear, and the approach to undesirable but pleasurable activities--." Desensitization therapy has proved effective with the former and aversion therapy has proved effective with the latter. The disadvantages of using drugs with aversive therapies and the advantages and disad-

vantages of using electrical shock with these therapies are discussed. "The use of drugs makes it difficult to control the pairing of the conditioned (C.S.) and unconditioned stimulus (U.S.). Often the U.S. (aversive stimulus) appears before the C.S. (alcohol)." This occurrence is referred to as backward conditioning and is felt not to be true conditioning by many theorists. This situation is better controlled when electrical shock is used as the U.S., however, some patients feel this approach is too painful, that there is more difficulty in providing a shock which is effective and yet not harmful, and that this treatment can only take place in a clinical setting. Research in treating homosexuals has indicated that both words and visualizations can be successfully used in aversion therapy as the C.S. "Also it appears that the noxious stimulus itself does not need to be applied externally." The author presents a case description of a heavy drinker and that of an obese woman who were treated by covert sensitization treatment. In therapy the heavy drinker was taught how to relax. She had provided a history that she drank a lot when she ate out, was at a party, or at a dance. During each session, and in a relaxed state, she was asked to imagine each of those three drinking situations. However, in each case, as she began to drink the alcohol she was asked to imagine that she became sick to her stomach and vomited over the dinner table, the hostess' dress, or all over the floor. "On every other trial she was told that she refused to take the drink (in her imagination) and she immediately felt calm." She was given 8 weekly sessions and was told to imagine these scenes at home. Different types of beverages were suggested throughout these sessions. Eight months after the last session, she still had not taken an alcoholic drink although she had to imagine these scenes at home three times when she felt she was weakening.

## 64 Cautela, J. R.

## COVERT SENSITIZATION.

Psychological Reports, 20: 459-468,

1967.

E - gen. - gen. disc. - tables - alcohol. - abst. - classical - relax.

- vis. - verbal - combin. - desc. treatm. - disc. generaliz. - disc.

theo. treatm. - goal establis. - c. r., 75 - f. p., 3m. -

r. r., 25

B-3111.

The author has developed a new procedure which he calls "covert sensitization". The procedure is used to treat maladaptive approach behavior or such responses as obsessions, compulsion, homosexuality, drinking, and stealing. A description of the procedure is given in which the patients are first instructed in relaxation. The patients are then asked to visualize the pleasurable object, or in this case, liquor, to visualize the drinking of liquor and, as

they imagine the glass touching their lips, to think of themselves getting sick and vomiting. A feeling of relief is instilled as the patients imagine scenes in which they turn away from alcohol. These associations are strengthened until the patients are able to use this treatment on their own, away from the therapist. The aversion acts as a punishment which is quite effective in reducing the frequency of the undesired practice and which is long lasting. A description of the procedure with obese patients, homosexuals, and juvenile offenders is also provided. Reference is made to an unpublished study testing the efficacy of this treatment with alcoholics. Only 2 out of 7 patients receiving 9 sessions of covert sensitization resumed drinking after a 6 month period compared to 3 out of 4 patients who did not receive this treatment.

65 Cautela, J. R.

THE TREATMENT OF ALCOHOLISM BY COVERT SENSITIZATION. *Psychotherapy: Theory, Research and Practice*, 7(2): 86-90, 1970. E - gen. - gen. disc. - out-pat. - alcoh. - abst. - classical - vis. - verbal - desc. side-effects - desc. treatm. - disc. generaliz. B-3220.

The author discusses several different behavioral modification techniques in the treatment of alcoholism. Both relaxation and desensitization are used to treat the anxiety component of the drinking behavior. "Thought-stopping is used to control covert responses which may be precursors to drinking." Quite often, aversion to alcohol must be instilled in the alcoholic allowing time for the other techniques to have their effect. The author's aversion procedure "consists in instructing the patient to close his eyes and imagine that he is about to drink some alcoholic beverage, experiences a sensation of nausea, and vomits." Actually, neither the drinking nor the vomiting takes place. Before treatment begins, the alcoholic completes several questionnaires outlining his drinking pattern. From this outline, scenes are created and verbalized to the patient as he is relaxed. However, in each scene, his drinking leads to nausea and vomiting. Three typical scenes are provided. A second type of scene is presented and this consists of the person drinking, feeling sick, and experiencing relief as he refrains from taking the drink. Ten of the former scenes and ten of the latter scenes were presented during each session and the patient was asked to imagine these scenes on his own. He is asked to practice the other behavioral modification techniques as well. Several studies using this approach in the treatment of alcoholism are discussed. Forty percent abstinence was reported in one study while 100 percent abstinence was reported in a second study. It has been found that patients may suffer from depression when their drinking

was curtailed. This usually occurred when the underlying reasons for their drinking had not been adequately dealt with. In some patients the thought of being nauseated is as effective as actually being nauseated. However, other stimuli such as snakes and maggots can be paired in scenes with the alcohol. Sometimes, special imagery training is required with certain subjects. The author points out that aversion developed through these scenes is specific and does not generalize to all the different alcoholic beverages. Treatment should continue for at least 6 sessions after the patient has stopped drinking and lost his urge to drink.

- 66 Chapman, R. F., and Smith, J.W.  
 PERIPHERAL NEUROPATHY AND ELECTRICAL AVERSION  
 TREATMENT OF ALCOHOLISM.  
 Behavior Therapy, 3: 469-471, 1972.  
 E - gen. - case disc. - few ss. - male - alcohol. - classical -  
 electro. - indiv. - desc. treatm. - goal n. establis. B-3T12.

A case is presented of a 60 year old male alcoholic who suffered from peripheral neuropathy and, because of this, was little affected by electric aversion therapy. The major symptoms of peripheral neuropathy are acute sensory disturbances. The man had a history of an earlier failure with emetine aversion therapy, experienced delirium tremens, had an enlarged liver, and suffered both marital and job problems because of his drinking. In determining what shock intensity to use, it was found that the patient could tolerate a 20 mA. If 20 mA. was used on the average person, the pain would be usually found to be too aversive for the person to be willing to continue treatment. A description of the method is given. However, after 5 treatments in which as many as 500 pairings were administered, the percent of choice of nonalcoholic beverages remained at, or below, the baseline of 35 percent. The method of administering the shock was altered but to no avail. The patient's pain threshold for electric shock was very high and this was assumed to be due to the peripheral neuropathy. Aversive conditioning cannot occur unless the patient can perceive the stimulus as being aversive. This could be the case if the patient suffers from polyneuropathy, and many alcoholics do develop this pathology.

- 67 Cheek, F.E., Franks, C.M., Laucius, J., and Burtle, V.  
 BEHAVIOR-MODIFICATION TRAINING FOR WIVES OF  
 ALCOHOLICS.  
 Quarterly Journal of Studies on Alcohol, 32: 456-461, 1971.



E - res. - clin. study - more ss. - female - alcohol. - abst. - desc.  
treatm. - goal n. establis. B-3261.

"Ample evidence exists in the literature that the interaction between a treated alcoholic and his family members often became laden with tension and hostility so damaging that it threatens his sobriety." With this in mind, the authors attempted to instruct the wives of treated alcoholics on how to apply behavioral principles and operant-conditioning techniques to bring about changes in their interactions with their husbands. In addition, it soon became apparent that the wives had to be taught how to be less disturbed by the tension-arousing situations which they were involved in with their husbands. Of the 158 wives or parents contacted, only 24 took part in the meetings, 13 having left before the final meeting. Only three participated in 5 meetings or more. The program which involved 10 meetings is described. Lectures on the principles of behavior modification along with written instructions were given. In addition, Lindsley's technique of pinpointing recording, and consequating group discussions was presented and private consultation was available. Assessment and evaluation questionnaires were completed by the participants and the alcoholics on the 2nd and 10th meetings. It was found that there were three kinds of behavior which were frequent sources of disturbance to their relatives. These were hostility and aggression, social withdrawal, and failure to accept a responsible adult role within the family. "Positive changes were reported, though mostly of a relatively modest nature, in the alcoholics' attitudes and behavior, as well as in the participants' own behavior and attitudes." The most satisfaction and the greatest use was reported for the relaxation and desensitization procedures. One problem which was realized in this attempt "was that, whereas in other programs responsibility for the modification of behavior is generally relegated to persons who have a higher status than those whose behavior is to be changed, in the present program the reinforcer role was assigned to the alcoholic's wife." Alcoholics, who were unwilling to perceive their wives as having power over them could have actively resisted the effort made by the wives. In addition, many of the wives felt uneasy about being authoritative and hurting their husbands' already low sense of self-esteem.

68 Cheek, F. E.

BROAD-SPECTRUM BEHAVIORAL TRAINING IN SELF-CONTROL  
FOR DRUG ADDICTS AND ALCOHOLICS.

Behavior Therapy, 3: 515-522, 1972.  
E - lett. ed. - gen. disc. - out-pat. - female - male - alcohol. -  
drug addict. - classical - relax. - syst. desens. - combin. - indiv.  
- group - desc. treatm. B-3114.



The writer of this letter discusses his program of using behavior modification techniques for the development of self-control in both alcoholics and their wives. The basis for this was the success found in teaching parents of young adult convalescent schizophrenics behavior modification ideas and techniques to deal with the disturbed behaviors of their offspring. Wives of alcoholics were found to be too tense and hostile to handle experiments in behavior changes. Because of this, both wives and their alcoholic husbands were taught relaxation, desensitization, self-image training, and assertive training procedures. This program consisted of eight 1.5 hour group sessions over a 4 week period. The techniques taught were directed toward changing feelings and thinking as well as behaviors. Individual sessions were also provided if needed. The acceptance of this approach by the patient groups was probably due to the fact that it was practical, positive, behavior-oriented, it could deal with special problems common to addicted patients. It was decided to adopt this program for male and female drug addicts and female alcoholics.

- 69 Chevat, H., and Merlin, J.-F.  
 PREMIERS RESULTATS DU TRAITEMENT DE L'ALCOOLISME  
 PAR LE DISULFURE DE TETRA-ETHYL-THIURAME. [First  
 results of treatment of alcoholism with tetraethylthiuram disulfide.]  
 Société de Médecine Militaire Française, 44: 135, 1950.  
 F - res. - clin. study - alcohol. - abst. - classical - chem. - desc.  
 side-effects - desc. treatm. - disul. A-2357.

The authors report their first results of the treatment of alcoholism with antabuse. These results confirm those already known. This drug has no effect on the human body, but combined with alcohol it causes the following reactions: sensation of heat, watering eyes, rapid heartbeat, dizziness, digestive troubles, and a complete disgust for alcohol, which becomes manifest around the tenth to thirteenth day of the treatment, and can last a very long time. No accidents have been reported. It is very necessary to examine the patient's health in great detail before the treatment. The patient must not drink alcohol for 48 hours. First 0.50 gr. later 1 gr. is administered daily. Three hours later, 120 to 150 cc. of wine are taken. The patient is forced to be treated for 10 to 15 days, with a close surveillance of the doses given. Around the 13th or the 15th day, the drug is no longer given, but the same amount of alcohol must be drunk, in order to develop the conditioned reflex. The patient is then dismissed, but kept under medical surveillance. The authors conclude the report, emphasizing the value of this method which could eliminate the great problem of alcoholism in France.

- 70 Claeson, L.-E., and Malm, U.  
ELECTRO-AVERSION THERAPY OF CHRONIC ALCOHOLISM.  
Behaviour Research and Therapy, 11: 663-665, 1973.  
E - res. - clin. study - pat. - more. ss. - male - alcoh. - abst. -  
classical - electro. - desc. treatm. - goal establis. - c. r., 25 -  
f. p., ly. - r. r., 45 B-3245.

Electrical aversion therapy is desirable because of its more exact control of the aversive stimulus as well as avoiding the side-effects of treatments with apomorphine. The authors treated 26 male alcoholics, suffering from severe chronic alcoholism, using 2 different treatment designs. The programmes aimed at conditioning the proprioceptive stimuli, perceptive stimuli, and associative stimuli inherent in the patients. The behaviors dealt with in the first design consisted of reading, smelling, looking at slides, replies and situations from a tape-recorder, gripping the glass, and sipping the drink. All these were associated to drinking alcohol. The second design excluded the tape-recorder and the slides. The indication of failure with this treatment was the patients' readmission to hospital. The authors state that "because all the patients were such addicts that if they once began to drink again, it would surely lead to relapse of a period of drinking and readmission to hospital." The results were that 24 percent were still sober 12 months after treatment, 64 percent relapsed, and 12 percent were lost to follow-up. The authors used 69 male alcoholics, treated in the same department, as a control group. Although these alcoholics were about the same age as the experimental group and were somewhat less heavy drinkers, only 18.2 percent of the control group were sober 6 months after discharge. From the results, the authors concluded that "emphasis should be placed on the imaginary step in the therapeutic programme, that a certain degree of over learning is advisable and that booster treatments should be included---." The authors regarded their results as promising.

- 71 Clancy, J.  
MOTIVATION CONFLICTS OF THE ALCOHOL ADDICT.  
Quarterly Journal of Studies on Alcohol, 25: 511-520, 1964.  
E - gen. - gen. disc. - alcoh. - abst. - classical - disc. theo.  
addict. A-1963.

The definition of excessive drinking and the effects of excessive drinking are discussed in this paper. Drinking is excessive when it leads to illness or disease, interferes with important functional aspects of life, or if persons important to the drinker designate it

as excessive. The cyclic behavior of drinking bouts followed by abstinences is discussed incorporating the role of pleasure and displeasure on drinking. The sole reason alcoholics are unable to drink moderately is the pleasure associated with drinking. However, binge drinking always leads to physical and/or psychological pain so that abstinence ensues. The Alcoholics Anonymous program is discussed with the main element being the acknowledgement that any drinking will lead to pain. The condition-reflex method of treatment is mentioned with the strong endorsement of reinforcement sessions being given after initial treatment for improved results. An alcoholic who is suffering pain after a binge will submit to aversive conditioning. However, after some months of abstinence, the need for this treatment is lessened along with his motivation to continue treatment. Drinking and pain begin to dissociate while drinking and pleasure begin to reassociate. This is true for treatment for maintaining abstinence in which the alcoholic is allowed to give himself alcohol-reaction causing drugs.

- 72 Clancy, J., Vanderhoof, E., and Campbell, P.  
 EVALUATION OF AN AVERSIVE TECHNIQUE AS A TREATMENT  
 FOR ALCOHOLISM. CONTROLLED TRIAL WITH SUCCINYL-  
 CHOLINE-INDUCED APNEA.  
 Quarterly Journal of Studies on Alcohol, 28: 476-485, 1967.  
 E - res. - tables - pat. - more ss. - alcohol. - abst. - classical -  
 chem. - indiv. - desc. treatm. - goal establis. - succinyl. B-3164.

A controlled clinical study of aversion therapy for alcoholism, using succinylcholine-induced apnea, was carried out by the authors. The 4 groups consisted of: 25 alcoholics who were given succinylcholine while ingesting alcohol, 17 alcoholics who went through the same procedure but received saline instead of succinylcholine, 59 patients who had received the regular hospital treatment, and 22 alcoholics who had been evaluated but refused treatment. The aversion technique is described in detail. A follow-up study was carried out after 1 year using the following indices to indicate the patient's total adjustment: less than 1 week of illness, no court convictions, increased employment, and improved relationship with spouse, family and friends. In terms of increased abstinence, the aversion group ranked higher with 88 percent, and the others followed with 70, 66, and 45 percent. The first 2 groups did not differ significantly. The mean change in months of abstinence was also calculated for each group and, again, there was no difference between the first 2 groups. Statistics for the other indices are provided in table form. In all the cases, while the aversion group showed significant improvement over those who received only hospital treatment or refused treatment, there were no significant improvements in the

aversion group over those who undertook the treatment but did not receive succinylcholine. Only one succinylcholine-induced apnea session was provided for those in the aversion group.

- 73 Cohen, D.J., and Phelan, J.G.  
ROLE OF STIMULUS GENERALIZATION IN THE TREATMENT OF ALCOHOLISM.  
Psychological Reports, 29: 771-778, 1971.  
E - res. - clin. study - pat. - more ss. - male - alcoh. - abst. -  
classical - electro. - desc. treatm. - disc. generaliz. B-3165.

The authors carried out an experiment to study the following hypotheses: 1) "stimulus generalization would occur (in electrical aversion therapy for alcoholism) and be measurable by pulse rate (increases) when alcoholic beverages, not previously conditioned were presented," 2) avoidance conditioning would produce more stimulus generalization than escape training, and 3) externally controlled Ss would show a greater amount of generalized aversion than internally controlled Ss. 23 alcoholics were randomly assigned to either an avoidance, escape, or control group. For the 6 escape Ss, shock onset was contiguous with CS and terminated with the spitting response. For the 7 avoidance Ss, shock onset occurred 10 seconds following CS and terminated with the spitting response. "Conditioning sessions were approximately 30 minutes long, comprising of 25 trials twice a day for 16 sessions." This was followed by 8 extinction sessions. The first 7 conditioning sessions provided 100 percent reinforcement, the following 9 sessions provided partial reinforcement. The test for stimulus generalization was made following session 16 of acquisition and following session 8 of extinction. The heart beat rate was taken before and after the different alcoholic beverages were given and was used to determine stimulus generalization. Stimulus generalization occurred to a significant extent in the two treatment groups only in the extinction trials. There was no difference between those alcoholics who were given avoidance procedures and escape procedures. Lastly, it was found that "externally controlled alcoholics in extinction tended to resist extinction, and, as a consequence, generalized from the original stimulus of the conditioned alcoholic beverage to similar alcoholic drinks."



- 74 Cohen, D. J., and Phelan, J. G.  
 DIFFERENCES IN DEGREE OF GENERALIZATION IN  
 EXTINCTION OF COMPULSIVE DRINKING BETWEEN ONE TYPE  
 AND MULTITYPE BEVERAGE DRINKERS.  
 Journal of Psychology, 80: 309-317, 1972.  
 E - res. - pat. - more ss. - male - alcoh. - abst. - classical -  
 electro. - desc. treatm. - disc. generaliz. B-3222.

The literature on stimulus generalization, in electric shock aversive treatment of alcoholism, has been contradictory and confusing. The purpose of this experiment was to determine the extent and kinds of generalization that do occur. The following hypotheses were proposed: that stimulus generalization would occur and be measurable by an increase in pulse rate, that externally controlled Ss would show a greater amount of generalized aversion than internally controlled Ss, and that those who indiscriminately and randomly switched from 'hard' beverages (bourbon, vodka) to 'soft' (beer, wine) would generalize in extinction to a significantly greater degree. Twenty-three male alcoholics who were to receive electric aversion therapy were assigned to three different groups: avoidance, escape, and control. They were also split into two groups based on their external-internal orientation. Conditioning sessions were about 30 minutes long, comprising 25 trials twice a day for 16 sessions followed by 8 extinction trials. The test for stimulus generalization, before and after stimulus heart rate, was made following the 16th session of acquisition and following the 8th session of extinction. Generalization occurred significantly often only in the extinction phase, for those who were given both hard and soft alcohol sessions and who also happened to be predominantly externally oriented. "The acquisition of a conditioned response seems not to be enough to bring about generalized anxiety in response to those alcoholic beverages not used in the conditioning itself." Possible explanations for those findings are provided. The results indicate that the occurrence of generalization is related to the type of alcoholic personality as well as the kinds of beverages usually consumed.

- 75 Cohen, M., Liebson, I. A., Faillace, L. A., and Speers, W.  
 ALCOHOLISM: CONTROLLED DRINKING AND INCENTIVES FOR  
 ABSTINENCE.  
 Psychological Reports, 28: 575-580, 1971.  
 E - res. - clin. study - tables - pat. - few ss. - male - alcoh. -  
 abst. - operant - pos. reinfor. - indiv. - desc. treatm. - goal  
 establis. B-3166.



This study demonstrates how, through the use of positive reinforcement, excessive drinking by alcoholics can be moderated to controlled drinking, or even abstinence. Subjects for the experiment were 4 divorced male chronic alcoholics, aged 28 to 39 years, living on a 6-bed token economy, behavior-research ward. The target behaviour was abstinence, being maintained by monetary payments to each individual subject if he abstained for one day after a priming dose of alcohol given every three days. Two additional experimental operations were performed (either a delay in the reinforcement, or manipulation of the priming dose) to determine their effects both on abstinence and the size of reinforcement necessary to reinstate abstinence. A delay in reinforcement (payment) weakened abstinence ability, but an increase in the amount of payment could reinstate it. When subjects had abstained and the amount of the priming dose was increased, abstinence behaviour was disrupted, but again reinstated with a larger reinforcement. Results suggest that with sufficient and consistent reinforcement, controlled drinking can be maintained by alcoholics, challenging the "loss-of-control" phenomenon often reported by alcoholics. Further discussion indicates the need for study on how reinforcement contingencies interact with other suggested variables which could determine drinking behaviour.

- 76 Cohen, M. , Liebson, I. A. , Faillace, L. A. , and Allen, R. P.  
 MODERATE DRINKING BY CHRONIC ALCOHOLICS: A SCHEDULE-  
 DEPENDENT PHENOMENON.  
 Journal of Nervous and Mental Disease, 153: 434-444, 1971.  
 E - res. - clin. study - pat. - few ss. - male - alcohol. - mod. -  
 operant - pos. reinfor. - group - desc. treatm. - disc. generaliz. -  
 - disc. theo. addict. - disc. theo. treatm. - goal establis. B-3115.

The paper begins with a discussion on the drive-reduction theory of alcoholism and, in this connection, on the two techniques of aversion therapy and contingency management used to change undesirable behavior. Two experiments are presented in which 5 healthy male alcoholics in the first, and 4 of the 5 in the second experiment, were hospitalized for 5 weeks. The goal for these patients was the maintenance of moderate drinking which was considered 5 ounces of alcohol per day. During 1, 3, and 5, the contingent weeks, if the patient drank 5 ounces or less he was allowed to live in the enriched environment. If he drank more, he was put in an impoverished environment for a period extending over 24 hours and allowed to finish his bottle of alcohol. During weeks 2 and 4, moderate drinking was not differentially reinforced, as they were kept in the impoverished environment. The patients in the enriched environment, could work to earn money, use a private

phone, use the recreation room, eat a regular diet, have reading material in their room, and receive visitors. All five patients drank 5 ounces or less during the contingent weeks most of the time and drank a significantly greater amount during the noncontingent weeks. In the second experiment, the patients were kept in the enriched environment during the noncontingent weeks of treatment. It was found, again, that the differences between the mean amounts of alcohol each of the patients drank during the contingent and noncontingent weeks were significantly different.

- 77 Cohen, M., Liebson, I. A., and Faillace, L. A.  
 THE ROLE OF REINFORCEMENT CONTINGENCIES IN CHRONIC ALCOHOLISM: AN EXPERIMENTAL ANALYSIS OF ONE CASE.  
 Behaviour Research and Therapy, 9: 375-379, 1971.  
 E - res. - clin. study - pat. - few ss. - male - alcoh. - mod. - operant - pos. reinfor. - indiv. - desc. treatm. - goal establis.  
 B-3154.

A set of 6 experiments were carried out with a 39 year old male alcoholic to: 1. determine how his drinking could be modified by reinforcement contingencies, and 2. to demonstrate that it was these contingencies which were maintaining his moderate drinking. The research lasted 9 months. The experimental periods were made up of contingent and non-contingent weeks. During the contingent weeks, if the subject drank 5 ounces or less of 95-proof alcohol he was kept in the enriched environment. If he drank 6 or more ounces, he was placed in an impoverished environment from the time he drank the 6th ounce until 7 o'clock the next morning. This period was extended by 24 hours in the later experiments. During the non-contingent weeks, the subject remained either in the impoverished or the enriched environment no matter how much he drank. The enriched environment included work, phone, recreation, regular diet, reading material, and a bedside chair. The impoverished environment offered none of those. The amounts the subject drank during the contingent and non-contingent weeks in each experiment were compared. The first experiments attempted to determine the reinforcers which supported the subject's previous drinking pattern. Once they were identified, they were altered so that moderate drinking was maintained for as long as 5 weeks. Contingency planning may be a useful tool in the management of chronic alcoholism. Possibly, contingencies which might be effective in the alcoholic's own environment should be analyzed.

- 78 Cohen, M. , Liebson, I. A. , and Faillace, L. A.  
 A TECHNIQUE FOR ESTABLISHING CONTROLLED DRINKING IN  
 CHRONIC ALCOHOLICS.  
 Diseases of the Nervous System, 33: 46-49, 1972.  
 E - res. - clin. study - pat. - few ss. - male - alcoh. - mod. -  
 operant - pos. reinfor. - group - desc. treatm. - goal  
 establis. B-3116.

An experiment is presented in which 5 healthy male alcoholics were hospitalized for 5 weeks. The goal for these patients was the maintenance of moderate drinking which was considered 5 ounces of alcohol per day. During weeks 1, 3, and 5, the contingent weeks, if the patient drank 5 ounces or less he was allowed to live in the enriched environment. If he drank more, he was put in an impoverished environment for a period extending over 24 hours and allowed to finish his bottle of alcohol. During weeks 2 and 4, moderate drinking was not differentially reinforced as they were kept in the impoverished environment. The patients in the enriched environment could work to earn money, use a private phone, use the recreation room, eat a regular diet, have reading material in their rooms, and receive visitors. All five patients drank 5 ounces or less during the contingent weeks most of the time and drank a significantly greater amount during the noncontingent weeks.

- 79 Cohen, M. , Liebson, I. , and Faillace, L. A.  
 CONTROLLED DRINKING BY CHRONIC ALCOHOLICS OVER  
 EXTENDED PERIODS OF FREE ACCESS.  
 Psychological Reports, 32(3) (Part 2): 1107-1110, 1973.  
 E - res. - clin. study - pat. - few ss. - male - alcoh. - mod. -  
 operant - pos. reinfor. - group - desc. treatm. - goal  
 establis. B-3761.

There seems to be some evidence that alcoholics can drink moderately when substantial quantities of ethanol are available. In research, it has been found that there are both antecedents and consequences of drinking which can alter the amount of alcohol consumed. One such antecedent is the necessity to work to obtain alcohol and some consequences include shock avoidance, money, and admission to an enriched environment. Another variable, in this investigation, is the extent of the opportunity of the alcoholic to drink excessively. The purpose of this study was to determine if moderate drinking could be maintained when the opportunity for a drinking bout of several days duration was available. Three male alcoholic volunteers were given the option to drink up to 24 ounces of alcohol every day for 17 to 20 days. However, if they

drank 5 oz. or less on a given day, during the contingent period, they remained in an enriched environment. If they exceeded this amount, they were placed in the impoverished environment until 7 o'clock the next morning plus 24 hours. During the non-contingent period, no differential reinforcement for moderate drinking was carried out. The results indicated that even when the opportunity for a binge of several days duration was available, the enriched environment was an effective reinforcer for maintaining moderate drinking. The authors suggest that "research should be pursued to develop procedures which outside the laboratory may have utility in moderating pathological drinking."

- 80 Cornil, L., Ollivier, H., and Klotz, B.  
 DE L'IMPORTANCE DES REFLEXES CONDITIONNELS DANS LE  
 PROGRAMME THERAPEUTIQUE DE L'ALCOOLISME CHRONIQUE.  
 [The importance of conditioned reflexes in the treatment of chronic  
 alcoholism.]  
 Annales Médico-Psychologiques, 106: 599-603, 1948.  
 F - gen. - gen. disc. - alcohol. - abst. - classical - syst. desens. -  
 disc. theo. treatm. A-2094.

The value of the establishment of a conditioned reflex in the treatment of alcoholism is discussed. The authors suggest the best method for treatment would still involve removing alcohol during prolonged isolation cures in specialized hospitals. In order to achieve satisfying results, it is necessary to have a sufficiently long stay in hospital to deprive the patient as long as possible of his "familial ambiance", so that after discharge he can contrast the satisfaction drinking gives him with the painful memory of his cure and isolation from his friends. An example is cited of a man suffering from an advanced stage of alcoholism where his home life was being affected. On returning home intoxicated one night, he had beaten his wife, and when he realized the seriousness of his actions, decided to stop drinking. He was able to do this for three months before seeking professional help, where it was shown that he was superimposing the image of the violent scene on his desire to drink. Eventually the patient arrived at associating this scene with the sight of a glass containing an alcoholic beverage, then with the sight of a drinking establishment, and finally with the thought of drinking. A review of the work already done using conditioned reflexes is given, and mention is made of the use of the pentothal interviews of O'Hollaren, to learn more about the psychological history of patients. Also discussed is the use of substance to create reflexes of distaste. The importance of considering all methods of creating conditioned reflexes to produce aversion for alcohol are emphasized. A discussion follows, warning against creating aversion to



specific beverages, and the need for consideration of the personality of the patient - whether it is susceptible to conditioning or not.

- 81 Cornil, L., Ollivier, H., and Klotz, B.  
 TRAITEMENT DE L'ALCOOLISME PAR LES REFLEXES  
 CONDITIONNELS D'OPPOSITION. [Treatment of alcoholism with  
 opposite conditioned reflex.]  
 Concours Médical, 71: 1553-1555, 1949.  
 F - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
 - chem. - desc. treatm. - goal establis. - c.r., 65 -  
 apomor. A-2081.

The authors begin their article by outlining different treatments for alcoholism other than the conditioned reflex method. This last approach is not a detoxification treatment but, if the first experience of this method is accompanied by an intensive emotional state, the reflex obtained can be for life. The treatment consists of the development of nausea with the help of apomorphine, and step by step, this nausea is associated with the taste, smell, and sight of alcohol. The number of sessions vary with each patient but treatment should be continued until the desired reflex is well established. The results of treating 18 alcoholics in this fashion were: excellent results, 3; very good results, 3; good results, 7; mediocre results, 3; and failures, 2. Reinforcement sessions were indispensable in not permitting the reflex to fade. This method is more effective with those who present themselves voluntarily than with hospital patients. The cases studied showed that the weaker the character of the patients, the more effective was the treatment while it was much less effective with impulsive or violent characters.

- 82 Cornil, L., Ollivier, H., and Fiorentini, H.  
 ETAT ACTUEL DES THERAPEUTIQUES ANTI-ALCOOLIQUE.  
 [The present status of therapies for alcoholism.]  
 Le Sud Médical et Chirurgical, 82: 295-310, 1950.  
 F - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 adjuv. - indiv. - desc. treatm. - disc. generaliz. -  
 apomor. A-2091.

The authors discuss several major and minor treatments for alcoholism. The major treatments were: conditioned-reflex therapy and disulfiram. With Conditioned-reflex therapy, a feeling of nausea and vomiting are associated with the taste, smell, and sight of wine. Apomorphine, using a dose of .005 gr. per cc., was used to cause the sick feelings. The authors found that each patient had to



be isolated during the treatment sessions and that they had to be detoxified before treatment. Those patients who volunteered for treatment seemed to respond to treatment the best. The effects of treatment were specific in that the patient had to be conditioned against all varieties of alcoholic beverages. Also, the treatment was found to be more successful with weaker characters than with impulsive and emotional ones. It was also pointed out that the durability of the reflex could be increased with the increase of the emotional involvement of the patient during the first part of the treatment and that psychotherapy was of benefit when combined with conditioned-reflex therapy.

83 Costello, C. G.

AN EVALUATION OF AVERSION AND LSD THERAPY IN THE TREATMENT OF ALCOHOLISM.

Canadian Psychiatric Association Journal, 14: 31-42, 1969.  
E - gen. - gen. disc. - review - alcohol. - abst. - classical - chem. - desc. side-effects - desc. treatm. - disc. contraind. - emetine - succinyl. B-3117.

The classical conditioning basis of aversion therapy is outlined in a review of this type of treatment and LSD therapy for alcoholism. Relevant articles are discussed and descriptions of methods used are given. The benefits and disadvantages of the different drugs used in aversion, including apomorphine, emetine, and succinylcholine, are presented. Mental and physical contraindications of the emetic drugs include the patients' lack of intellectual or emotional ability to recognize the necessity of permanent abstinence, disturbances of the cardiovascular-renal system, and cirrhosis of the liver. One author, made reference to, feels succinylcholine is better than emetic drugs in that the degree of trauma produced is much greater, the traumatic unconditioned response has a predictable inset and a predictable course of action, and it is relatively free of side effects. Observations of chemical and treatment effects are given. One study involving electro shock therapy is discussed and from the results of this, and the previous studies presented, the author concludes that there is no good evidence that aversion procedures are any more effective than other treatments of alcoholism. The section on aversion therapy is ended by a consideration of patient variables and procedural variables which may have caused the large range of results obtained and which may detrimentally affect the recovery of alcoholics.

## 84 Cotlier, I.

ETILISTA CRÓNICO TRATADO POR LA SUGESTIÓN HIPNÓTICA Y LA REEDUCACIÓN PSÍQUICA DE SU PERSONALIDAD. [Chronic ethylism treated by hypnotic suggestion and the psychiatric re-education of the personality.]

Revista Argentina de Neurologia y Psiquiatria, 3: 102-109, 1938.  
 Sp - gen. - gen. disc. - alcohol. - abst. - classical - hypn. (aver.) -  
 adjuv. - indiv. - desc. treatm. A-2277.

At first there are references to the different ways of hypnosis and how to treat different cases. An alcoholic is hypnotized for several sessions, less often as he progresses. During the hypnosis, it is suggested to him not to drink, or a paralysis of his arm whenever he reaches for a glass will be provoked. Nausea is also suggested, pairing it with the presence of alcohol. Instead of apomorphine, hypnosis is used to create nausea. By way of words a conditioned reflex is obtained, and the advantage of this over chemical treatments is that one has a greater influence on the patient. This is the basis for the psychic re-education which follows. An example is given of a patient's treatment by hypnosis. Wine is associated with nausea, and after hypnosis, even a wine-coloured liquid causes the patient to feel ill. It is suggested that he drink milk; he will not become ill. Alcohol is associated with unpleasant thoughts and ideas, thus the patient develops a repugnance against it. In the end, hypnosis is eliminated, making the last sessions simple conversations, in order to overcome inferiority complexes and to awaken a respect for society.

## 85 Davidson, R. S.

## MODIFICATION OF ALCOHOLIC BEHAVIOR.

Newsletter for Research in Psychology, 14(1): 30-31, 1972.  
 E - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical  
 - electro. - desc. treatm. - goal establis. - c. r., 35 -  
 f. p., ly. B-3778.

The author treated 15 alcoholics in a research-oriented alcoholism treatment program based upon a learning orientation. Participation in the program was entirely voluntary and lasted between 5 and 7 weeks. The patients were also expected to return to hospital for 8 scheduled follow-up visits after the termination of treatment. The patients were seen for 2 daily half-hour sessions in which they received liquor as reinforcement for pulling a plunger a fixed number of times. Treatment was then began to modify the patient's probability of working for liquor. For 3 other patients, they risked the delivery of an increasingly intense shock for working for liquor rather than changing their reinforcement to coke. After this treat-

ment, their drinking was greatly reduced from their levels before treatment. The 15 patients discussed in this paper recieved aversive treatment in which shock was combined with alcohol delivery until the patient stopped responding for liquor. Only 7 of the 15 attended each follow-up visit following treatment. The results indicated that 3 patients remained abstinent up to a year following treatment. Two others reported low and controlled rates of social drinking. Lastly, an additional 2 alcoholics consumed alcohol at rates of intake substantially less than before treatment.

- 86 Davidson, W. S. , II  
 STUDIES OF AVERSIVE CONDITIONING FOR ALCOHOLICS: A  
 CRITICAL REVIEW OF THEORY AND RESEARCH METHODOLOGY.  
 Psychological Bulletin, 81(9):571-581, 1974.  
 E - gen. - review - alcoh. - abst. - classical - chem. - electro. -  
 indiv. - group - desc. treatm. - disc. theo. treatm. - apomor. -  
 emetine - succinyl. B-3808.

Using the captions individual case studies, single-group designs, and control group designs, the author reviews the literature dealing with chemical and electrical aversion techniques with alcoholics. He then considers the literature under the headings: Evaluation of the evidence, with regard to the research design, the coverage of the relevant domains, and the measures; the Theoretical explanations; and the Ethical considerations. The author points out that "the literature reporting the use of aversion therapy for alcoholics has presented a number of positive results. However, when the research designs and important areas of investigation are analyzed, the efficacy of the techniques is left open to question."

- 87 Delay, J. , Pichot, P. , and Thuillier, J.  
 LES NOUVELLES CHIMIOTHERAPIES DE L'ALCOOLISME. [The  
 new chemotherapies of alcoholism.]  
 Annales Médico-Psychologiques, 107: 427-429, 1949.  
 F - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 treatm. - disc. generaliz. - apomor. A-2257.

In 1934, J. -Y. Dent suggested the use of apomorphine in the treatment of chronic alcoholism. But it was mainly Voegtlin and his collaborators who expanded this method in the United States. The principle was as follows: the favourite drink was given to the patient, and at the same time an injection of apomorphine was administered, provoking nausea. This operation was repeated until the mere sight of the drink caused the patient to vomit. However, this

method resulted in an aversion against only one type of alcohol at a time. In 1948, Jacobson and Larsen discovered antabuse. The characteristics of this drug and the methods are not described, since they have been explained in an earlier article. The results of these chemical therapies were good. Out of 25 patients, treated 5 months ago, several were now leading normal lives, while others had to continue taking medication. In any case, other therapies were required along with these treatments in order to be successful. Therapies of substitution, and psychotherapies are discussed, emphasizing the importance of discovering the reasons why a certain patient has become alcoholic.

- 88 Delay, J.  
 CHIMIOTHERAPIES DE L'ALCOOLISME. [Chemo-therapies of alcoholism.]  
 Presse Médicale, 58: 13, 1950.  
 F - gen. - case disc. - gen. disc. - pat. - few ss. - alcoh. - abst.  
 - classical - chem. - desc. treatm. - disc. generaliz. - goal  
 établis. - apomor. - disul. A-2205,

The therapies of conditioning were, up to these last few years, based on the use of apomorphine. The patient is offered his favourite drink, and at the same time an injection of apomorphine is given, provoking nausea. This operation is repeated until the mere sight of alcohol causes nausea. Unfortunately, this method obtains abstinence against only one type of alcohol at a time. In 1948, Jacobson and Larsen discovered antabuse, which provokes unpleasant reactions to any kind of alcoholic drink. The treatment must take place in a hospital, under strict medical surveillance. In this manner, no accidents or remarkable incidents have occurred. The therapies of substitution are based on the substitution of alcohol by a product which has a stimulating action on the nervous system, but presents no danger of addiction. It is important to associate a psychotherapy to any therapy of alcoholism. An example of a 57 year old man consuming excessive amounts of alcohol is given. The treatments were undergone in strict isolation, in a clinic. The patient agreed to be treated with antabuse. He received an initial dose of 1 gr. daily for 3 days, and then a daily dose of 0.50 gr. A quarter litre of red wine was offered to him, and after 1/2 hour the characteristic reactions took place: redness of the face and neck, swollen eyelids, rapid respiration, a pulse of 120, dizziness, and nausea, lasting for about 1 hour. The treatment was continued until the patient refused to take any alcohol. He was a transformed man at dismissal from the clinic; he remained abstinent from any kind of alcohol and continued to take antabuse regularly.



- 89 Dent, J. Y.  
 APOMORPHINE IN THE TREATMENT OF ANXIETY STATES,  
 WITH ESPECIAL REFERENCE TO ALCOHOLISM.  
 The British Journal of Inebriety, 32(2): 65-88, 1934.  
 E - gen. - case disc. - gen. disc. - out-pat. - pat. - female -  
 male - alcohol. - abst. - classical - chem. - desc. treatm. - disc.  
 contraind. - disc. pharm. - goal establis. - apomor. A-1969.

The author begins this paper with a discussion of the physiology of anxiety and its control with the aid of apomorphine. Vomiting is caused by this drug and, although this is not its main therapeutic effect, it seems to relieve the patient. In dealing with alcoholics the belief that there is a possibility of a cure must be instilled as all their previous attempts have failed. Treatment should contain no blame but ought to be unpleasant and this unpleasantness associated with drinking. In a nursing home, the author's patients were not allowed food or drink except for their favorite alcoholic beverages. After drinks, they were given a small dose of apomorphine subcutaneously and told that they will become sick in 15 minutes. After some time, they begin to perspire and vomit. Bottles of their favorite beverages were left with them and if some alcohol was consumed during the night, more frequent injections of apomorphine were administered to make the patients ill. During the following day, further drinks and injections were administered if it was felt that the aversion was not strong enough. If it was, a cup of tea and then a meal were given to the patients, unexpectedly. When the patients were strong enough, they were allowed to leave having, in most cases, an entirely changed outlook on life. It was suggested that sweets should be eaten to replace the easily assimilable food previously found in alcohol. They were also told that there was no hope of being a moderate drinker. Case descriptions are provided of the treatment of alcoholism and of other forms of anxiety with the administration of apomorphine.

- 90 Dent, J. Y.  
 THE STUDY AND CURE OF INEBRIETY.  
 British Journal of Inebriety, 39(1&2): 3-15, 1941.  
 E - gen. - gen. disc. - alcohol. - abst. - classical - chem. - desc.  
 treatm. - disc. theo. addict. - disc. theo. treatm. - emetine -  
 pilocar. A-2000.

The author states there are two grades of alcoholic. The 1st is not yet addicted to alcohol, but drinks it to treat some other disease, ie. anxiety and the 2nd drinks to treat symptoms of craving that alcohol has produced itself. Because of this, when a person has become addicted, the removal of the original incentive to



drink is not sufficient to cure that addiction. The author goes on to discuss recent treatments of alcoholism under the following headings: 1) acute alcoholism - drunkenness, 2) pre-addiction, 3) addiction-either constant or intermittent, and 4) mental sequelae. In discussing the first, the author states that the influence of insulin and glucose has reduced the length of symptoms of drunkenness by about one half. It has been suggested that the oxidization of alcohol may be catalyzed by the simultaneous oxidization of glucose. Religious, psychological, hypnotic and other suggestive and re-educational treatments are important in the pre-addiction stage of alcoholism. The 2 main kinds of alcohol addicts are the constant drinker and the intermittent drinker. These different addicts are further differentiated. In treating either of these addicts, detoxication is required. Then an attempt could be made to develop a conditioned reflex of nausea or disgust to the taste and smell of alcohol. Since the work of Pavlov, this type of treatment has gained in popularity, using apomorphine and emetine. The author provides a condensed version of the method used by Voegtlin, in Seattle. Voegtlin found that most relapses occurred during the first 6 months after treatment, and felt a reinforcement session might be of help 3 months after the initial sessions. Middle-aged people provided better results than did the younger people. Older patients had a 70 percent chance of remaining sober for several years. The present author asks if there is not another explanation for the success of this type of treatment. He relates it to the increase in stimulation of the front brain by anxiety or craving and the depressive effects on the front brain by alcohol and other addicting drugs. He concludes the paper by stating that "the study of inebriety necessitates the study of anxiety and insanity, of sugar as well as alcohol metabolism, of insulin, pituitrin, and adrenalin, and of the vitamins, especially the B complex also not only of front-brain depressants, but of back-brain stimulants."

- 91 Dent, J. Y.  
 SELF-TREATMENT OF ANXIETY AND CRAVING, BY  
 APOMORPHINE, THROUGH THE NOSE.  
 British Journal of Inebriety, 41(2): 78-83, 1944.  
 E - gen. - case disc. - gen. disc. - out-pat. - few ss. - male -  
 alcoh. - abst. - classical - chem. - indiv. - desc. treatm. - disc.  
 theo. addict. - goal establis. - apomor. A-1970.

A lengthy case report is presented of a male alcoholic whom the author attempted and finally succeeded to cure with the use of apomorphine. Due to the man's business associates he became accustomed to drinking a great deal of whisky. After losing his job and suffering ill health, he began to drink more heavily. Becoming an

intermittent drunkard and failing to be hypnotised during hypnotherapy, he underwent apomorphine treatment. Over the eleven year association, the patient relapsed around seven times always returning for reinforcement sessions. The dosages of apomorphine given along with a description of the patient's responses to apomorphine are given. The patient's general social and financial states during these periods in which he drank and during those periods in which he underwent treatment are also provided.

- 92 Desruelles, M., and Fellion, G.  
 A PROPOS DES TRAITEMENTS ACTUELS DE L'ALCOOLISME  
 (DESINTOXICATION, TETRAETHYL-THIURAM DISULFIDE,  
 APOMORPHINE). [On the present treatments of alcoholism  
 (detoxication, tetraethylthiuram disulfide, apomorphine).]  
 Annales Médico-Psychologiques, 109: 638-644, 1951.  
 F - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
 group - desc. side-effects - desc. treatm. - apomor. -  
 disul. A-2256.

The treatment used contains two stages: detoxication and aversion. The former is done for at least three weeks, with close examination of the patient's condition. After 8 days of this treatment, the aversion therapy may be begun. First it was done with antabuse, alone (55 patients), and then with apomorphine, followed by antabuse (20 patients). When correctly applied, the method with antabuse is not dangerous. It has to take place in a hospital. Before treatment the patient must have abstained at least 48 hours and must undergo a minute physical examination, as well as a mental examination. 1 gr. of antabuse is given to him the first two days, then 0.50 gr. the following days. If the reactions are good, the dose may be diminished to 0.25 gr. On the second day, the patient must drink a quart of wine in the presence of doctor who closely examines his reactions. There are rare cases of complications, such as mental problems or epilepsy. The treatment with apomorphine is similar to the one done by Morsier and Feldmann; the patients are treated in twos, or more at a time. They are in an isolated, empty room, in bed. During the treatment, they receive no food, no water, they do not wash, they never leave the room, and the vomitted wine is not cleaned up. At 5 o'clock in the morning the patient drinks his favourite drink (red wine in almost all the cases), and when he has drunk 3/4 or 1 litre, an injection of apomorphine is administered, provoking nausea 5 minutes later. This treatment is continued day and night, until a conditioned reflex against the sight of alcohol has been created, usually after 48 hours. The doses of apomorphine vary from 5 to 15 mg. depending on the patient. Then 15 units of insulin is given to the patient who is removed from the room and

may now eat a normal meal. The following day he is put on antabuse, as described above. 15 days later he is dismissed.

93 Devenyi, P.  
APPLICATION OF CONDITIONING PRINCIPLES TO THE  
TREATMENT OF ALCOHOLISM.  
Unpublished Paper. A. 300, Clinical Substudy No. 3-3-68.  
Addiction Research Foundation, Toronto, 13 pp., 1968.  
E - gen. - gen. disc. - alcoh. - mod. - electro. - disc. theo.  
treatm. B-3814.

As a preliminary step in a controlled study of aversive conditioning in the treatment of alcoholism, the author discusses the general theoretical and technical principles involved with behavioral modification. It is pointed out that "the basic idea in this treatment is that if abnormal drinking is learned, because it is immediately reinforced, then it can be unlearned, by giving immediate punishment for it instead of reward." Various methods used by other authors are reviewed. Nine important technical considerations in using aversion therapy are listed and the author deals with the various criticisms concerning this approach to treatment. The goal of normal drinking in alcoholics is discussed as well as the experimental controls which should be employed to point out any extra-treatment variables which might be influential.

94 Devenyi, P., and Sereny, G.  
AVERSION TREATMENT WITH ELECTROCONDITIONING FOR  
ALCOHOLISM.  
British Journal of Addiction, 65: 289-292, 1970.  
E - res. - clin. study - pat. - more ss. - male - alcoh. - abst. -  
classical - electro. - goal n. establis. - f.p., ly. -  
r.r., 45. B-3118.

A study is reported in which 20 male alcoholics who were admitted as in-patients were assigned to 1 of 4 treatment groups. In this aversion therapy experiment, the patients in the two treatment groups were given an electric shock 0.5 seconds after their first taste of an alcoholic beverage. The patients in the control groups were given backward conditioning in which they receive an electric shock just prior to tasting an alcoholic beverage. The difference between the two treatment groups was that the patients received total reinforcement in the first while the patients in the second group received partial reinforcement. The range of voltage applied ranged from between 300 - 500 V. All 20 patients completed the 10

acquisition sessions and were released from hospital. However, very few continued with the reinforcement sessions which had been arranged for the following year. Most of the patients were known to be drinking heavily following the treatment. Although the sample of subjects was small, the results give little encouragement as to the effectiveness of this type of treatment.

- 95 Dobroschke, C.  
SITUATIONEN IN DER ALKOHOLENTZIEHUNGSKUR. [Situations in alcohol detoxication.]  
Münchener Medizinische Wochenschrift, 95: 242-243, 1953.  
G - gen. - clin. study - pat. - more ss. - male - alcoh. - abst. -  
classical - chem. - group - desc. side-effects - desc. treatm. -  
goal establis. - c. r. , 45 - apomor. - emetine A-2099.

This article deals with a conditioned-reflex treatment which was slightly modified and which has met with a 50 percent success rate. Two factors which the author feels has benefited the treatment were: 1) the patients were kept in an "open" ward allowing the patients to be responsible for their own actions. During the 19 month treatment period, only 2 of 32 patients smuggled in liquor. 2) the reinforcement of the conditioned reflex. Each session was started every day at the same time. Punctuality was considered to be an important factor. Each patient was first given an emetine solution and 20 to 30 minutes later, an apomorphine injection. Each session lasted about one and one half hours, and the total length of treatment was 16 to 28 days. It was suggested that a helpful technique was to provide various kinds of alcoholic beverages, and to have the patient pay for them. Not only did an aversion develop towards these drinks, but he also had to pay for them. It was cautioned that in case of strong physical reactions, treatment should be discontinued for a day or so. The end of treatment was reached when the smell or taste of alcohol was enough to make the patient vomit. The goal was not only to abstain completely from drinking, but also to enable the patient to begin a new life. Psychotherapy should be provided for this purpose, not only during the treatment, but also afterwards. The author notes that the success of this treatment is greatly dependent on whether or not the patient has a firm intention of abstaining from drinking.

- 96 Dotsenko, S.N., and Serzhantova, T.I.  
K VOPROSU O LECHENII KHRONICHESKOGO ALKOGOLIZMA.  
[On the problem of treatment of chronic alcoholism.]  
Klinicheskaya Meditsina, 37(9): 142-145, 1959.



R - gen. - gen. disc. - pat. - more ss. - female - male - alcohol. - abst. - classical - chem. - adjuv. - group - desc. treatm. - goal establis. - c.r., 35 - f.p., 9m. - chlórdiaz. A-2066.

Fifty-seven alcoholics were given conditioned reflex treatment in hospital. After an initial period of detoxication and supportive treatment, the patients received injections of apomorphine. In groups of 8 or 10, they were placed at tables laden with vodka and wine and were given an alcoholic beverage just before they became sick. The treatment lasted for 20 to 25 daily sessions. Reinforcement sessions were required at intervals of 1 to 4 months. Conditioned reflex therapy is of little use with out-patients as they become negatively conditioned to the therapeutic sessions and are still able to drink at home. Twenty-two of the 55 patients for which there was follow-up information, remained abstinent for over 7 months.

97 Droppa, D. C.

# BEHAVIORAL TREATMENT OF DRUG ADDICTION: A REVIEW AND ANALYSIS.

The International Journal of the Addictions, 8(1): 143-161, 1973.

E - gen. - review - alcohol. - drug addict. - classical - operant - chem. - electro. - vis.-verbal - combin. - disc. contraind. - disc. probl. pat. - disc. theo. addict. - disc. theo. treatm. - apomor. B-3119.

This article is a review of the many forms of behavioral modification therapy. These different forms are discussed under the headings: "Aversive Conditioning", "Aversive Counterconditioning", "Instrumental Extinction", "Positive Counterconditioning and other Stimulus-related Procedures", "Development of Alternative Behaviors", and "Multiform Treatment of Drug Addiction". Under these headings many important procedures are outlined, such as: the pharmacological aversive procedure, the electric shock aversive procedure, the covert aversive procedure, and the verbal aversive procedure. With these procedures the author outlines: 1. the reasons for the addiction to alcohol, drugs and smoking, and 2. the theoretical basis of the different forms of treatment. He discusses studies undertaken with the different types of treatments and explains the benefits and contraindications of each mode of therapy. The writer concludes with the feeling that there is a lack of appropriate controls in the research to allow the determination of the true effectiveness of those treatments and to determine if any one specific treatment could be used for the many different types of addiction.



98 Duchène, H.

LES POSSIBILITES ACTUELLES DE TRAITEMENT DE L'ALCOOLISME. [Present possibilities in the treatment of alcoholism.]

Archives de Médecine Sociale, 5: 225-294, 1949.

F - gen. - gen. disc. - tables - out-pat. - more ss. - female - male - alcohol. - abst. - chem. - combin. - indiv. - disc. theo. addict. - disc. theo. treatm. - c.r., 25 - f.p., 9m. - r.r. 45 - apomor. - disul.

A-2335.

A review of the problems associated with alcoholism and their treatment is presented. The main concerns studied are the personality or personalities of alcoholics, and the possibilities for the treatment, not of the complications resulting from alcoholism, but of their underlying cause. Alcoholism is defined as a behavior disorder resulting from the ingestion of harmful quantities of alcohol. Both the social and individual aspects must be considered. A year long study was performed at a family welfare centre in France on 45 patients (32 males, 13 females) with alcohol problems. Treatment results indicated that there were 21 failures (13 males, 8 females), 14 showing slight improvement (11 males, 3 females), and 10 with very good improvement (8 males, 2 females). Patients were seen on a weekly basis. Preliminary treatment consisted of subcutaneous injections of hepatic extract and B-vitamins, and 10 to 30 drops of potassium rhodanate every day for 10 days. Attempts at individual psychotherapy were made. Success was based on degree and duration of abstinence. Possibilities for treatment are discussed based on 4 theories of alcoholism: 1. Alcoholism as a consequence of a pathologic thirst; 2. Alcoholism as a state of needs, treatable by intravenous injections of alcohol, or apomorphine; 3. Alcoholism as a habit, for which distaste could be developed by the use of potassium rhodanate, tetraethylthiuram disulfide (Antabuse), or various techniques of establishing a conditioned reflex; 4. Alcoholism as pathologic behavior, where the use of psychotherapies, lobotomy or segregation have been suggested. Reviews are made of studies done with these various therapies, but their true value has not yet been determined. The author emphasizes the treatment of alcoholism as a behavioral problem, and suggest psychiatric examination of patients suffering from medical complications of alcoholism. Recommendations are made to establish hospitals to study alcoholism and its treatment, and to compare these results with those of ambulatory treatment.

- 99 Duchêne, H.  
 LES POSSIBILITES ACTUELLES DE TRAITEMENT DE  
 L'ALCOOLISME. [Present possibilities in the treatment of  
 alcoholism.]  
 Cahiers Laennec, 11(3): 2-60, 1951.  
 F - gen. - clin. study - gen. disc. - pat. - more ss. - alcoh. -  
 abst. - classical - chem. - desc. treatm. - goal establis. - c.r.,  
 55 - apomor. - disul. A-2262.

The author begins with a definition of alcoholism as a threat to society and to the individual. He discusses the age of the alcoholics, their family situations and personality problems, and explains the reasons for alcoholism. G. de Morsier and M. Feldmann have studied the treatment of alcoholism with apomorphine recommended by J.Y. Dent in 1934. Out of 100 patients treated during 2 to 8 days in hospital, 55 were successful after 1 to 3 treatments. It is important to add a psychotherapy to the treatment. Jens Hald and E. Jacobson found that animals and humans become ill after consuming alcohol, if they have previously taken antabuse. The treatment involves the administration of 1 to 2 gr. of antabuse, then 0.06 gr. to 0.75 gr. for 2 days. The third day, the patient drinks as much as he likes, and the characteristic reactions take place: acceleration of the pulse and respiration, increase in skin temperature, redness of the face and neck, nausea and vomiting. No serious accidents have been reported. Tables of results are given and explained. In 1934, an English doctor had proposed to treat alcoholism with apomorphine, and during following years, Markovnikov in the U.S.S.R., and Ichok and Voegtlin in the U.S.A. have recommended its use for the creation of conditioned reflexes of nausea at the consumption of the smallest amount of alcohol. In France, Martimor and Maillefer published in 1938 the results obtained by creating a conditioned reflex with ipeca. Since this drug sometimes causes persistent diarrhoea, it has been replaced by apomorphine. The method of conditioned reflexes is discussed, but without going into detail on behaviour modification. The author describes different techniques of psychotherapy and psychoanalysis of the alcoholic, and the difficulties involved.

- 100 Dunn, R. B., Smith, J. W., Lemere, F., and Charalampous, K. D.  
 A COMPREHENSIVE INTENSIVE TREATMENT PROGRAM FOR  
 ALCOHOLISM.  
 Southwestern Medicine, 52(5): 102-104, 1971.  
 E - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 desc. treatm. - emetine B-3211.

The authors describe their "intensive, active, multi-disciplined approach to the treatment of alcoholism". Their treatment is based on developing a conditioned reflex aversion to the sight, smell, and taste of alcohol. This is supplemented with pentothal interviews, physical and mental examination of the patients, education about alcoholism, and individual and group confrontation, and reality therapy. The initial stay in hospital was 10 days with the patients returning for reinforcement sessions. Behavior therapy is discussed with two major points being expressed. The first is that the results obtained with it have been more favorable than for other forms of psychotherapy and that it is the only therapy for which an experimental basis exists. The principle of reciprocal inhibition is explained in that two different responses cannot take place at the same time in a stimulus situation. By causing an ill feeling response to alcohol, the patient's desire for it reduced. The patient was given emetine hydrochloride to produce nausea and vomiting at which time he was given alcohol. Five of these sessions were provided on alternative days. The point is made that to be effective, teams of skilled therapists must carry out this subconscious learning technique in detail. The answer to why hangovers do not produce an aversion to alcohol is that alcohol, as a sedative, interferes with such conditioning and secondly, that hangovers occur as a result of not drinking, not because of drinking. The authors then describe the pentothal sessions which the patients underwent and discuss the reality therapy which the alcoholics were given to help them to adjust to abstinence in their every day lives. The program offers a 50 percent chance of controlling alcoholism by permanent abstinence from alcohol.

- 101 Edlin, J. V., Johnson, R. H., Hletko, P., and Heilbrunn, G.  
 THE CONDITIONED AVERSION TREATMENT IN CHRONIC  
 ALCOHOLISM.  
 American Journal of Psychiatry, 101: 806-809, 1945.  
 E - gen. - clin. study - out-pat. - pat. - more ss. - female - male  
 - alcoh. - abst. - classical - chem. - indiv. - desc. side-effects -  
 desc. treatm. - disc. theo. treatm. - goal establis. - c. r., 10 -  
 f. p., 9m. - emetine A-2020.

In, general, there are two goals in the treatment of alcoholics. The first is the management of the withdrawal period and the restoration of the alcoholic's health. The second is to cure the patient of his addiction. The first goal is usually achieved, however the second is much more difficult to accomplish. The difficulties in providing individual psychotherapy and the success reported by Alcoholics Anonymous are discussed. The conditioned aversion treatment for alcoholism is then dealt with. With the administra-

tion of emetine, emesis of alcoholic beverages, given the patient 3 or 4 times within an hour, is carried out. Further sessions and increased numbers of pairing of alcohol and emesis are scheduled until an aversion against alcoholic beverages is firmly established. Usually five to eight sessions are required. Aversion must be established for whisky, wine and beer, however, stress is placed on the type of beverage to which the patient is addicted. During the treatment provided, complications consisted of difficulty in vomiting which required induction by physical means, and gastric bleeding. Reinforcement sessions, at intervals of one to three months, were found to greatly enhance the benefit of the therapy. Eighty men and 20 women, whose average period of addiction was 12 1/2 years, were treated. Fifteen percent of 82 patients treated in hospital remained abstinent for five to fifteen months. Five of nine privately treated patients remained abstinent for three to fifteen months. The low percentage of hospitalized patients helped would seem to be closely associated to the patients' inferior social and financial situations. The value of conditioned aversion treatment is questioned. The authors feel that all alcoholics suffer from some personality disorder from which alcohol provides an escape. If the alcoholic is deprived of this escape, he must suffer from his conflict to a much greater degree. This treatment's beneficial role consists of providing an abrupt suspension of the alcoholic's drinking at which time he should be introduced into individual or group psychotherapy.

- 102 Edlin, J. V., Johnson, R. H., Hletko, P., and Heilbrunn, G.  
 THE CONDITIONED AVERSION TREATMENT OF CHRONIC  
 ALCOHOLISM: PRELIMINARY REPORT.  
 Archives of Neurology and Psychiatry, 53: 85-87, 1945.  
 E - gen. - gen. disc. - out-pat. - pat. - more ss. - alcoh. - abst.  
 - classical - chem. - c. r., 25 - f. p., 9m. A-2268.

Seven patients were treated outside the hospital and 78 patients were treated in a hospital for alcoholism using conditioned aversion therapy. Of the former group, 4 patients, or 58 percent remained abstinent from alcohol from 3 to 7 months. Of 64 patients treated in the hospital at least 5 months before the writing of this article, 15 patients, or 23 percent of them remained abstinent for 5 to 10 months. The difference in the cure rates seemed to be related to the patients' sociological situation - this possibly reflecting their emotional and psychologic status. It was found that the patients treated in the hospital had a rather inferior social and financial situation. At the same time, 11 of the 15 patients in the hospital and the privately treated group had a superior sociological rating. "It was regarded that the aversion treatment (did) not represent a



'cure' at all - it must be regarded as a method to render the addict abstinent for a certain period, during which psychotherapy ---- (could) be instituted and gain ground."

103 Elkins, R. L.

AVERSION THERAPY FOR ALCOHOLISM: CHEMICAL, ELECTRICAL, OR VERBAL IMAGINARY?

International Journal of the Addictions, 10(2): 157-209, 1975.  
E - gen. - review - alcohol. - abst. - mod. - classical - chem. -  
electro. - vis.-verbal - indiv. - group - desc. treatm. - disc.  
theo. treatm. - apomor. - emetine - succinyl. B-3263.

The author reviews the literature dealing with aversion therapy based: 1) on chemically induced nausea and emesis, 2) on noxious faradic stimulation, 3) on respiratory arrest, and 4) on imagery and verbally induced nausea. In each case, the clinical application, experimental evaluation, and practical advantages and limitations are considered. The literature is also discussed in regards to whether nausea is a biologically appropriate aversive stimulus in the behavioral treatment of alcoholism. Finally, a discussion of the experimental design of the studies dealt with along with their general research strategy is presented. Experiments using nonhuman and human subjects are critically reviewed. The author concludes by outlining the status of the abstinence-oriented treatments as well as of the controlled drinking approaches.

104 Entin, G.M.

[Active antialcoholic treatment of patients after acute alcoholic psychoses.]

Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakova, 69: 899-905, 1969.  
R - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
classical - chem. - vis.-verbal - combin. - desc. treatm. - disc.  
contraind. - goal establis. - apomor. B-3275.

The author examined 50 male alcoholics, ranging in age from 21 to 52 years and who had been drinking from 5 to 20 years, who had experienced acute alcoholic psychoses. Eleven of these men had experienced 2 to 6 psychoses. The character and form of the psychoses were varied, some men experienced delirium tremens, hallucinations or psychic disorder which had lasted for hours or days. All patients received conditioned-reflex treatment using apomorphine. These patients received 0.1 to 0.2 ml. of apomorphine each day, at the beginning and 0.3 to 0.4 at the end of treatment. Small



doses were used because of the presence of other physical and mental problems. This treatment showed positive results. Only 2 patients resumed drinking immediately after being discharged from hospital.

- 105 Evans, D. R. , and Day, H. I.

A PRELIMINARY REPORT ON THE CONDITIONING OF AN AVOIDANCE RESPONSE TO ALCOHOL DRINKING.

Paper read at the Canadian Psychological Association Convention, 13pp. , Montreal, June, 1966.  
E - gen. - clin. study - pat. - few ss. - male - alcoh. - abst. - operant - electro. - desc. treatm. - disc. probl. pat. - disc. theo. addict. - goal establis. - f. p. , 3m. B-3120.

A preliminary report is presented of a study which was designed to determine the effectiveness of avoidance therapy on alcoholics. Previous studies are mentioned which dealt with chemical and electrical aversion treatments along with two studies which used avoidance therapy but with behavioral disorders other than alcoholism. One subject is described who after completing an extensive battery of psychological tests and at the signal of a strong blast of white noise to the ear, (the unconditioned stimulus), had to take one of three drinks that were placed in front of him. The drinks consisted of alcohol and mix, mix, and water. Thirty trials of 20 drinking responses each, were administered. In each trial, the drinks were presented randomly with alcohol occurring 8 times. The unconditioned stimulus was tried with the alcohol on a 70% reinforcement schedule. A button was provided so that the subject could avoid the blast of white noise. A large improvement was found in the subject in the anxiety, resentfulness, and interpersonal relations scale scores on the Manson Evaluation Test. He achieved 90% abstinence from alcohol during the study and remained abstinent during the two month follow-up period.

- 106 Ewing, J. A.

BEHAVIORAL APPROACHES FOR PROBLEMS WITH ALCOHOL.

International Journal of the Addictions, 9(3): 389-399, 1974.  
E - gen. - review - alcoh. - abst. - mod. - classical - operant - chem. - electro. - pos. reinfor. - relax. - vis.-verbal - desc. treatm. - emetine B-3806.

Psychoanalysis may not be the total answer in the treatment of alcoholism. Discussing psychoanalysis and behavioural therapy, the author notes that "various writers have pointed out that there is

not necessarily any conflict between reinforcement theory and psychodynamics, but that rather these two approaches may supplement each other." The author reviews the literature dealing with the behavioural approaches in the treatment of alcoholism under the two headings: Total abstinence approaches, and Attempts to inculcate controlled drinking behavior. In the first section, studies in which chemical and electrical aversion, covert sensitization, and apneic paralysis were used are cited giving the results reported. In the second section, a more descriptive analysis is made into those studies in which moderate drinking was the therapeutic goal. The author concludes that aversive therapies have already proved themselves but that attempts to instill moderate drinking in alcoholics requires further research and experience.

107 Ewing, J.A.

SOME RECENT ATTEMPTS TO INCULCATE CONTROLLED  
DRINKING IN PATIENTS RESISTANT TO ALCOHOLICS  
ANONYMOUS.

Annals of the New York Academy of Sciences, 223: 147-154, 1974.  
E - gen. - gen. disc. - out-pat. - more ss. - alcoh. - mod. -  
operant - pos. reinfor. - group - desc. treatm. - disc. theo.  
treatm. B-3709.

The author discusses the position of those who feel abstinence is the only realistic goal in the treatment of alcoholism and those who feel that moderate drinking is also an acceptable goal in such treatment. Results of papers which support the respective arguments are provided. These papers have much to do with the concept of craving "which implies that ingesting some alcohol triggers a sequence of compulsive drinking with an eventual 'loss of control'." The author describes several clinical reports in which behavioral modification techniques, including electrical stimuli and operant reinforcements, were used to teach controlled drinking behavior to alcoholics. The author reports his efforts in treating 21 alcoholics who failed in A.A. or refused to participate in it. The program "focused on inculcating controlled drinking behavior in outpatients who (attended) for only a few hours once a week." "In a social setting, in a small group and with their spouse present whenever possible, patients (poured) themselves drinks and (were) taught to distinguish their varying blood alcohol levels. A mild electric shock to the face at readily acceptable levels (was) administered only when patients (had) passed an agreed-upon blood alcohol level, which was usually about .05 or .06 percent." The typical patient received as many as 8 to 10 shocks during the early sessions of the 12 week course but this was reduced to 0 and the patient recieved only positive reinforcement in the latter sessions as they learned to

stay below the critical blood alcohol level. The author began "to emphasize more the self-control aspects and less the association with the aversive shock." It has been suggested that controlled drinking approaches are not possible for all alcoholics. However, these approaches may be successful for those for whom these approaches are possible and who can not accept the prospect of a lifetime of total abstinence.

- 108 Farrar, C. H., Powell, B. J., and Martin, L. K.  
PUNISHMENT OF ALCOHOL CONSUMPTION BY APNEIC PARALYSIS.  
Behaviour Research and Therapy, 6: 13-16, 1968.  
E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
classical - chem. - indiv. - desc. treatm. - f.p., 9m. -  
succinyl. B-3155.
- A one-trial aversion procedure using succinylcholine chloride was tried on 12 male chronic alcoholics. Ten subjects had a primary diagnosis of either a psychoneurotic or personality disorder while the other 2 were classified as "Chronic Brain Syndrome". Succinylcholine chloride produces a rapid and complete paralysis of the skeletal muscles, including those associated with respiration, without altering the state of consciousness. A high degree of fear, is reported, in response to the sudden cessation of breathing which it invariably causes. Without being told what to expect, each subject was asked to lie down and smell, then taste, and then sip an alcoholic beverage. Succinylcholine chloride was administered through an intravenous apparatus attached to the subject and the onset of the effect of the drug was contiguous with the sipping of the alcohol. After 30 seconds of apnea, a manual resuscitator was used, so that total apnea rarely exceeded 90 seconds. In the 6- and 12- month follow-up studies, 4 of 9 and 2 of 9 subjects, respectively, had remained abstinent. Due to the poor results, and the traumatic experience involved with the subjects, the value of using apnea paralysis to treat alcoholism is questioned.
- 109 Feamster, J. H. and Brown, J. E.  
HYPNOTIC AVERSION TO ALCOHOL: THREE-YEAR FOLLOW-UP OF ONE PATIENT.  
American Journal of Clinical Hypnosis, 6(2): 164-166, 1963.  
E - gen. - case disc. - pat. - few ss. - male - alcohol. - abst. -  
classical - hypn. (aver.) - hypn. (gen.) - combin. - indiv. -  
desc. treatm. - disc. probl. pat. - goal establis. -  
f.p., 3y. A-1945.

A case report is presented of a 43 year old man who was treated for his excessive drinking by hypnotic methods. At the time of his admission to hospital, he was diagnosed as suffering from both acute and chronic brain syndromes. Due to his psychological state in which it was determined that he did not have the depth of feeling necessary to gain from psychotherapy and due to possible suicidal tendencies, treatment involving hypnotherapy and hypnotic aversion therapy were used. In a trance, the patient was told that at the smell, taste and even sight of alcohol, he would begin to relive his worst hangover with all the discomfort it applied. In another session, he was given instructions as to what actions to follow to relieve his feelings of anxiety. Six months after leaving hospital, he suffered his first relapse. Again in a trance state, the patient was instructed to describe dreams he was asked to have involving his problems. The anxieties and fears surrounding these dreams were eased through the instructions of the therapist. Although he still experienced depressive states after leaving hospital, he has not resumed drinking and returns to the hospital periodically to ease his tension. His family and social life, along with his general adjustment, have greatly improved over the three years since the initial treatment.

- 110 Feldmann, H.  
 TRAITEMENT DE L'ALCOOLISME CHRONIQUE. [ The treatment  
 of chronic alcoholism. ]  
 Praxis, 37: 172, 1948.  
 F - gen. - gen. disc. - more ss. - alcohol. - abst. - classical -  
 chem. - adjuv. - desc. treatm. - c.r., 35 - f.p., 9m. - r.r., 35 -  
 apomor.  
 A-2286.

The treatment program described, is based on a conditioned reflex and nausea, and involves giving patients their preferred alcoholic beverage with injections of apomorphine. It is essential to gain the cooperation of the patient before proceeding. The patient drinks his alcohol, receives 12 mg. of apomorphine, drinks again, receives a second dose of apomorphine, then 1.6 mg. every two hours, continuously through the next day. This lasts 2 to 2 1/2 days after which the patient receives an injection of insulin and a substantial meal. Psychotherapy should be introduced when the patient experiences distaste, and regular controls are also needed. Of 31 cases treated over 9 months, 8 were considered cured with 1 session, 2 were considered cured with 2 sessions, and 8 were too recent to be validly evaluated. The reasons for failure were mainly due to the mental state of the patient, or external circumstances. 3 case studies are given with very encouraging results, although they are still too recent to draw any definitive conclusions from them.



- 111 Feldmann, H.  
 TRAITEMENT DE L'ALCOOLISME CHRONIQUE PAR L'APOMORPHINE. [Treatment of chronic alcoholism with apomorphine.]  
 Revue Medicale de la Suisse Romande, 68: 602-604, 1948.  
 F - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
 - chem. - adjuv. - desc. treatm. - c.r., 35 - f.p., 9m. - r.r., 15  
 - d.r., 35 - apomor. A-2295.

This method consists in provoking a complete dislike of the alcoholic drink by creating a conditioned reflex. A reaction of nausea is associated with the consumption of alcohol. Psychological conditions must be established in order to prolong the effects of the treatment after the reflex has been exhausted. It is necessary to choose patients who wish to be cured and who ask to be treated. In the morning, the patient may drink as much as he likes, and 0.006 grams of apomorphine is injected, provoking nausea. The patient continues to drink, and 4 hours later, a second injection is given. If he drinks more, the injections are continued. At the end of the treatment, a weak dose of insulin is administered to him, and he may drink tea with sugar and have a normal meal in the evening. The cure lasts 2 to 2 1/2 days. An adequate psychotherapy must be associated with the treatment, in order to make the patient understand that he will not have difficulties in abstaining, but that success depends on him. In case of relapse, he must immediately return for a new treatment. It is necessary to examine the patients regularly for several months. Out of 31 cases treated during the last 9 months, 38% were definitely cured, 10% were cured after a second treatment, 32% failed, 20% did not appear for the examinations. The causes for failure may be the mental state of the patient, exterior circumstances or family, social, and professional life.

- 112 Feldmann, H.  
 LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE PAR L'APOMORPHINE. [The treatment of chronic alcoholism with apomorphine.]  
 Médecine et Hygiène, 6: 279, 1948.  
 F - gen. - clin. study - pat. - more ss. - alcoh. - abst. - classical  
 - chem. - indiv. - desc. treatm. - goal establis. - c.r., 75 - r.r., 25 - apomor. A-2342.

The author mentions the different treatment approaches for alcoholism. An outline of the method using apomorphine is presented. Apomorphine has 2 effects: 1) by causing nausea, it allows the conditioning of the patient against alcohol and 2) it suppresses the need in the patient of more and more alcohol. It also seems to calm the



alcoholic's anxieties. During treatment, the patient was isolated and was allowed and encouraged to drink as much alcohol as he wanted. At the same time, he was injected with 0.006 gm. of apomorphine every 2 to 4 hours. The dosage was gradually decreased to .0016 gm. and was given night and day until drinking completely disgusted the patient. The injections were continued 8 hours after the patient had stopped drinking and until a conditioned reflex of nausea and vomiting had been achieved at the raising of the glass of alcohol to his lips. 78 cases were treated in this manner and a total of 55 cases were evaluated on a long term basis. Fifteen alcoholics relapsed after the first of those treatments for a relapse rate of 27.3 percent. Those who relapsed were treated again so that the cure rate after the first treatment was 63.6 percent and the total cure rate after some patients underwent two and three treatments was 70.9 percent. A list of reasons for the failure of this treatment included psychological reasons which continued to cause the patients to seek alcohol, and the milieu around the treatment session itself. While the conditioned reflex of vomiting wore off after 6 to 8 months, the author recommended this method from an economic and social standpoint. The maximum duration of treatment was one week which reduced the financial and social burden of the patient. The patient was charged 100 to 125 francs for the treatment which included the alcohol.

113 Feldmann, H.

LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE PAR L'APOMORPHINE. ETUDE DE 500 CAS. [Treatment of chronic alcoholism with apomorphine. Study of 500 cases.]

Praxis, 41: 871-874,

1952.

F - tables - alcohol - abst. - classical - chem. - indiv. - group - desc. treatm. - disc. generaliz. - goal establis. - c.r., 35 - r.r., 35 - apomor.

A-2288.

J. Y. Dent published his first results of the treatment of alcoholism with apomorphine in 1934. Since 1948, the following technique has been adopted: After a complete examination, the patient who must be sober is placed in an isolated room, without food and water during the treatment. If several patients undergo the same treatment, they are grouped in a large room. One or two glasses of alcohol are offered to the patient, and at the exact moment at which the alcohol begins to cause a euphoric sensation, 6 mg. of apomorphine are injected under the skin, provoking nausea and vomiting 3 to 7 minutes later. 2 to 4 hours afterwards, a second injection of 6 mg. of apomorphine is given, accompanied by a glass of alcohol. If the patient continues to drink, a third injection (6 mg.) is given. If he drinks only a little, the third injection is 5 mg. Every 2 hours,

day and night, 5 then 4 mg. are injected, as long as he continues to drink. When he is averted from one kind of alcohol, wine for example, another kind, (beer, kirsch, etc.) is offered, and so forth with all types of alcohol. During the treatment, the intervention of the doctor is necessary, for the patient must be forced to drink. The treatment is completed when the mere sight of the glass causes nausea, without any injection of apomorphine. When the patient can no longer drink, the doses of apomorphine are diminished to 4, 3, and 2 mg. every hour for 8 hours. In 183 cases, a psychotherapy was associated with the treatments. At the end, 10 units of insulin are injected and tea with sugar is offered to the patient, with a normal meal. The treatment lasts 6 to 10 days, with an average of 9 days. Tables and graphs show the results of the treatments, and number of successes and failures.

- 114 Feldmann, H.  
 LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE PAR  
 L'APOMORPHINE. (ETUDE DE 500 CAS). [The treatment of  
 chronic alcoholism with apomorphine. (Study of 500 cases).]  
 Semaine des Hôpitaux de Paris, 29(29): 1481-1491, 1953.  
 F - gen. - clin. study - tables - pat. - more ss. - alcohol - abst. -  
 classical - chem. - indiv. - group - desc. treatm. - disc.  
 generaliz. - disc. pharm. - c.r., 35 - f.p., 1y. - r.r., 35 -  
 apomor. A-2267.

The author begins with a history and analysis of apomorphine, discovered in 1869 by Mathiesen and Wright. Professor de Morsier has done experiments with animals, and their reactions to this drug are explained with photographs and diagrams. John-Yerbury Dent published his first results of the apomorphine treatments of alcoholics in 1934. Since 1948, the following technique has been adopted: After a complete examination, the patient is led into a room where he remains sober and without food and water during the whole treatment. If there are several patients undergoing treatment, they are grouped in a large room. The patient drinks one or two glasses of his habitual beverage, and at the exact moment at which the alcohol begins to provoke a euphoric sensation, 6 mg. of apomorphine are injected under the skin. 3 to 7 minutes later, nausea and vomiting take place. 2 to 4 hours afterwards, a second injection of 6 mg. is given, accompanied by a glass of alcohol. If the patient continues to drink, a third injection of 6 mg. is done 2 hours later. If he drinks only a little or not at all, the third injection is only 5 mg. Every 2 hours first 5, then 4 mg. are injected, day and night. When the patient is averted from one kind of alcohol, the procedure is repeated for different types. The doctor has to force the patient to drink, and the treatment is not terminated until nausea is provoked

by the mere sight of the glass. The alcoholic drinks are left in the room near the patient, When he can no longer drink, the doses of apomorphine are diminished, and only 4, then 3, then 2 mg. are injected every hour for 8 hours after he has completely ceased to drink. Then 10 units of insulin is injected, one hour afterwards tea with sugar is offered to the patient, and another hour later, he may eat a normal meal. The treatment usually lasts 6 to 10 days, with an average of 9 days. The addition of psychotherapy is important during the treatment. Hospitalization is necessary for a maximum of 10 days. Since 1947, 960 patients have undergone 1260 treatments. In 1952, 500 of these patients have been examined; graphs and tables show their results.

- 115 Fellion, G.  
 TRAITEMENT DE L'ALCOOLISME. [ Treatment of alcoholism.]  
 Concours Medical, 74: 1877-1878, 1952.  
 F - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
 - chem. - indiv. - desc. side-effects - desc. treatm. - disc.  
 contraind. - disc probl. pat. - goal establis. - c.r., 55 - c.r., 95  
 - f.p., 3m. - f.p., 9m. - r.r., 3 - r.r., 35 - apomor. - disul. -  
 emetine A-2079.

Alcoholics are sick people whose condition results from personality disorders which are not always evident. The author emphasizes the need for narco-analysis which often reveals subconscious reasons why the patient has become an alcoholic. After such an examination, there are 2 different treatment methods which can be applied. One is that of detoxification, which involves rapid, total suppression of all alcoholic beverages. The other method is by means of repulsion, whereby an attempt is made to prevent relapses. This can be achieved with T.E.T.D. (tetraethylthiuram disulfide, or antabuse) or with apomorphine. In the case of antabuse, it can be efficient and harmless if taken in the prescribed doses. It is necessary to start treatment in a hospital setting because of the contraindications involved with the vascular system, and the confused mental states which often occur with its use. Treatment with apomorphine consists of establishing a conditioned reflex of distaste merely by the sight of an alcoholic beverage. The patient is isolated in a room for 3 to 7 days, during which time he does little but drink and vomit. A doctor or attendant must always be present, and visits by a psychotherapist must be purely medical or technical. After the patient has undergone apomorphine treatment he is given antabuse to maintain his abstinent behavior. Results of treatment with only antabuse or only apomorphine were a 60% cure rate often 1 year, whereas the combined treatment with apomorphine followed by antabuse produced a 95% cure rate after 6 months. Since these

drugs facilitate psychotherapy, further narco-analysis is suggested.

116 Feuerlein, W.

THERAPIE DES ALKOHOLISMUS. [The treatment of alcoholism.]  
Münchener Medizinische Wochenschrift, 112: 1611-1619, 1970.  
G - gen. - gen. disc. - tables - alcoh. - abst. - chem. -electro. -  
hypn. (aver.) - relax. - syst. desen. - combin. - desc. side-  
effects - desc. treatm. - disc. generaliz. - goal establis. -  
chlordiaz. - disul. - emetine - succinyl. B-3279.

This is a general discussion about the treatment of alcoholism, its development, stages, and the various difficulties and resistances which it meets. The article begins by dividing alcoholism into different stages and then proceeds to point out that due to its complex nature, the treatment must also be varied and flexible. One hindrance in the effective treatment is that doctors are not able to cope with the problem, partly because of a lack of interest on their part and also a lack of knowledge. Very few medical schools deal with the problem of alcoholism. The patient and doctor often attempt to stay out of each other's way. The treatment should not only be varied but also the result of the combined effort of various specialists. A brief description of various forms of treatments completes the article. Treatment should begin with detoxification which is largely a somatic (internal & neurological) problem. Chlormethiazol-Distraneurin has proven to be effective in this treatment. The goal is not simply abstinence, but also a new and positive attitude towards life. Some of the various treatments described are: Disulfiram-Antabus treatment, psychotherapy and other behavioural therapies. Hypnotism has not shown any advantages over other methods. Behaviour therapy with its subtypes has proven itself to be promising, even though it is still in the experimental stage. Group therapy has proven to be one of the best methods in the treatment of alcoholism. The article ends by saying that in Germany, social therapy is still quite undeveloped. In general, the treatment of alcoholism up to now has not been very successful partly due to a lack of efficient methods and also because of the fact that the available, proved methods are not used to the full extent.

117 Feuerlein, W.

CHRONISCHER ALKOHOLISMUS. ENTSTEHUNGSBEDINGUNGEN--  
THERAPIE. [Chronic alcoholism. Development conditions and  
therapy.]  
Der Nervenarzt, 43(8): 389-398, 1972.



G - gen. - gen. disc. - out-pat. - pat. - female - male - alcoh. -  
 abst. - chem. - electro. - hypn. (aver.) - syst. desens. - combin.  
 - indiv. - desc. treatm. - disul. - emetine - succinyl. B-3276.

The article begins by defining alcoholism. It accepts Jellinek's definition which divides alcoholism into 5 different types: Alpha, Beta, Gamma, Delta and Epsilon drinkers. Alcohol is seen as the number one addiction problem in the western world, and it is estimated that in Germany there are around 600,000 alcoholics. The number of female alcoholics has risen substantially in the last decade. After a general introduction the article discusses to some length the various factors which contribute to alcoholism. These factors are divided into three groups: social factors, psychological factors and physical factors. The rest of the article discusses the various methods of treating alcoholism. Usually the treatment begins with detoxification and the drug often used is Chlormethiazol. The patient should be hospitalized during this time. All the various methods which could then be used can be divided into two groups: 1. medical or 2. psychological treatments. 1. Medical Treatment: The first drug discussed is antabuse and its effects. 2. Psychological: The aim here is to instill in the patient a conditioned behaviour which would act negatively towards alcohol. Individual sessions form the basis of the treatments. The various treatments mentioned are: hypnotic, group therapy, systematic desensitization and the behavior or aversion therapy. Here the drugs used are Emetine and Succinylchloride. Electrical shocks are also used at times. After the patient received and tasted his favourite drink he would experience a negative reaction - vomiting, shocks or loss of breath. However, the results were not very satisfying. Within 12 months all the patients had a relapse. The article concludes by stressing the need for more hospitals and aid centres.

118 Fischer, M.

APOMORPHIN BEI TRINKERN. [Apomorphine for alcoholics.]  
 Öffentliche Gesundheitswesen, 2: 217-219, 1936.  
 G - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 adjuv. - desc. treatm. - goal establis. - apomor. A-2355.

Fifty years ago, alcoholics were treated with doses of strychnine, but that method has been abandoned since then. Now apomorphine is used in England, America, and Russia, after the method of Dr. Slutchevski and Fricken in Novgorod (1933). It is necessary to create a conditioned reflex against alcohol. The apomorphine causes nausea when combined with alcohol, so that the patient becomes completely disgusted at the sight, smell, and taste of a drink. The two doctors, after explaining to the patients the action



of the drug, injected apomorphine (0.003-0.01) and immediately afterwards gave them 25 gm. of vodka. The characteristic reactions followed. Later, apomorphine was mixed with vodka, instead of being injected. At the end of the treatment, nausea and vomiting were caused by the mere sight of alcohol. The conditioned reflex was thus established. The professor Dr. Johann S. Galant has changed this method because of several defects, and is treating patients in Leningrad in the following manner: First he injects strychnine and suggests to the patient that he will become ill on drinking alcohol. After 2 to 4 injections of strychnine he changes to apomorphine (0.005-0.007). This drug was not mixed with alcohol, and after 10 to 15 injections, nausea was provoked by the sight of the drink. The reflex had been created and the patient refused to take any more alcohol. A great emphasis is placed on a psychotherapy accompanying the treatment. Some alcoholics are very resistant against this method, so that up to 20 injections of apomorphine become necessary; others do not react at all. Two patients have been abstinent for over a year, several up to 5 months. No health problems during the treatments, which must take place in clinic or hospital, have been reported. Sometimes the treatment must be repeated. In Budapest, Dr. Kö uses Hypnomorph, a new preparation of apomorphine, together with wine and water. He obtains the same results.

## 119 Franks, C.M.

ALCOHOL, ALCOHOLISM AND CONDITIONING: A REVIEW OF THE LITERATURE AND SOME THEORETICAL CONSIDERATIONS. *Journal of Mental Science*, 104: 14-33, 1958.  
 E - gen. - gen. disc. - review - alcoh. - abst. - classical -  
 operant - chem. - adjuv. - desc. treatm. - disc. generaliz. -  
 disc. probl. pat. - disc. pharm. - desc. theo. addict. - disc. theo.  
 treatm. - apomor. - emetine A-1973.

The author reviews the literature, and discusses the theoretical consideration of learning theory and conditioning, in connection with the use of conditioning in the treatment of alcoholism. The author differentiates between classical conditioning "(in which the only essential criterion is that the conditioned stimulus and the unconditioned, or reinforcing, stimulus are associated by contiguity in some way)" and instrumental conditioning "(in which the subject receives the reward or avoids the punishment only if he makes the correct, i.e., the conditioned response)." The parameters associated to the different types of conditioning paradigms are discussed as well as those properties associated with the conditionability of the subjects. Animal and experimental studies with humans are discussed and their results reported in support of

the theoretical implications presented. The author includes a section in which he discusses experimental studies of alcohol in relation to learning and conditioning. He points out that "remarkably few experiments have been carried out---." In some cases, he discusses experiments in which tranquilizers or sedatives have been used, instead. Reports of clinical studies in which those methods were used to treat alcoholism are presented. The author discusses the different approaches used by the different researchers as well as the different conclusions. He feels that "there would seem to be no reason why treatment of both symptoms and the underlying disorder (connected with alcoholism) should not proceed along conditioning and learning theory lines. It would also seem reasonable to control the motivational factors by such techniques." Aversion therapies using emetine and apomorphine are discussed and the pharmacological effects of those drugs are presented. An examination of the type of personality which is more likely to respond successfully to conditioning therapy is made and the relation between such personalities and the alcoholic personality is discussed. "The most tenable and frequently proposed drive that alcohol is considered to reduce is anxiety." It has been shown that "the decrease in the acquired drive of fear or anxiety can serve as the reinforcing agent in the learning of a habit." This could be the basis of the etiology of alcoholism.

120 Franks, C. M.

CONDITIONING AND CONDITIONED AVERSION THERAPIES IN THE TREATMENT OF THE ALCOHOLIC.

The International Journal of the Addictions, 1(2): 61-98, 1966.  
 E - gen. - review - alcoh. - classical - operant - chem. - electro.  
 - hypn. (aver.) - pos. reinfor. - relax. - syst. desens. - vis. -  
 verbal - combin. - adjuv. - indiv. - group - desc. side-effects -  
 desc. treatm. - disc. contraind. - disc. generaliz. - disc. theo.  
 addict. - disc. theo. treatm. - apomor. - disul. - emetine -  
 pilocar. - succinyl. - ephedrine B-3121.

The evolution of the contemporary movement of a "scientific, systematically designed and carefully followed-up conditioned aversion therapy" to modify drinking behavior, is outlined. The historical origins and early applications begin with Pavlov's basic model for the conditioned reflex. Following this, Kantorovich attempted to treat alcoholism using an electric shock as the unconditioned stimulus. Subsequent to this, other investigators replaced the shock with drugs, beginning with apomorphine (during the early 1930's). Emetine and apomorphine became most widely used in the '40's, with best documented reports coming from Voegtlin and Lemere, of the Shadel Sanatorium in Washington. Their techniques were

later modified by Thimann, and Kant. Results from the Shadel Sanatorium, taken from May 1935 - October 1948 are presented, as are contraindications of the treatment. Recent developments involve a more careful combination of the behavioral scientist and the clinician, as well as the use of succinylcholine chloride dihydrate, electrical conditioning and covert sensitization. Pharmacological and electrical aversive stimuli are compared and contrasted according to a list of principles to be considered for "producing the most rapid conditioning and maximum resistance to extinction." The relationship of aversive conditioning with learning theory and behavior therapy is discussed, with suggestions for a "broad-spectrum" treatment approach, in order to "intergrate the modification of the drinking pattern per se into an overall behavioral program for treatment of the total person and not just the behaviour known as excessive drinking." An operant model of conditioning is introduced for future consideration as are "practical" areas in which future behavioural investigators might focus their research efforts, including techniques of behavioral assessment, group procedures, and training of attending personnel in the use of behavioral and reinforcement procedures in everyday contact with patients.

- 121 Franks, C.M.  
 ALCOHOL, ALCOHOLISM AND CONDITIONING: A REVIEW OF  
 THE LITERATURE AND SOME THEORETICAL CONSIDERATIONS.  
 In: Eysenck, H. J., ed. Behavior Therapy and the Neuroses.  
 Toronto; Pergamon Press, pp. 278-301, 1967.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - operant - chem.  
 - electro. - adjuv. - desc. side-effects - disc. theo. addict. -  
 disc. theo. treatm. - apomor. - disul. - emetine B-3764.

The author discusses alcoholism and the various aspects of alcohol on conditioning under the following headings: Experimental studies of alcohol in relation to learning and conditioning, Conditioned response therapy, Predicting success in conditioned aversion therapy, Alcohol as a therapeutic agent, and Alcoholism as a learned response. The difference between classical conditioning and instrumental conditioning is outlined as well as the many parameters involved in all kinds of conditioning. Discussed are experimental studies which were carried out to determine the type of personal characteristics which are associated with conditionability. Animal and human studies are related to determine the effects of alcohol, itself, on conditioning. It has been shown that the presence of alcohol has a deleterious effect on learning. However, personality characteristics tied in with the presence of alcohol in conditioning is a much more complex question and, to date, inadequately an-

swered. Concerning the literature on conditioned response therapy, "numerous workers have pointed out the need for vigorous procedures but few have taken this advice." The inferiority of backward conditioning is pointed out. The use of apomorphine, emetine, and electrical shock is discussed. The first appears also to be a depressant which may inhibit conditioning. However, because disulfiram can have serious side-effects, either apomorphine or emetine should be used instead. The difficulty in predicting success in this treatment of alcoholism is that there are no personality characteristics specifically found in alcoholics nor consistently found in alcoholics. Because of this, the question of who is most likely to become an alcoholic and who is most likely to be successfully treated can not be answered. Alcohol seems to have depressant effects. This area is examined with research carried out on sexual behavior: The findings indicated that in the presence of alcohol, the "desires are possibly unaltered but the conditioned restrictions which prevent their implementation are reduced." Other factors needing further study are the permanent physiological changes in the chronic alcoholic due to alcohol itself. These changes may interfere with conditioning. The author concludes this paper with a discussion of the etiology of alcoholism in terms of learning theory and conditioning.

122 Franks, C. M.

ALCOHOLISM.

In: Costello, C. G., ed. Symptoms of Psychopathology. A Handbook. New York: John Wiley and Sons, Inc., pp. 448-480, 1970.  
 E - gen. - gen. disc. - review - alcoh. - abst. - classical -  
 operant - chem. - electro. - pos. reinfor. - relax. - syst. desens.  
 - vis. - verbal - desc. treatm. - disc. theo. addict. - disc. theo.  
 treatm. - apomor. - emetine - succinyl. B-3776.

The author discusses alcoholism and its treatment under the following headings: Introduction, definition, and incidence; Description and assessment of the alcoholic; Learning theory and the effects of alcohol; early applications; Alcoholism as a problem in behavior modification; and Broad-spectrum behavioral approaches. The author outlines the development of behavioral treatment from the direct and narrow application of Pavlovian conditioning procedures to a broad-spectrum behavioral therapy program "aimed at the modification of (the alcoholic's) whole life pattern if need be." In regards to this latest development, principles which must be taken into consideration are dealt with. Apomorphine, emetine, and succinylcholine are discussed along with their advantages, disadvantages, and their success. The application of electric shock and covert sensitization are also included. In his discussion of



broad-spectrum behavioral approaches, the author presents several opinions as to the framework of such treatment. One such opinion entails: Didactic training for behavioral change; Aversive conditioning procedures, visual-verbal sequence, sip and sniff sequence, complex sequence, covert sensitization; Relaxation procedures; Desensitization procedures; training in areas of behavioral deficit, behaviordrama, in vivo training, and Controlling behavioral excesses and deficits by systematic application of contingent reinforcement procedures. The author concludes by discussing a number of problems involved in using a broad-spectrum behavioral approach in the treatment of alcoholism.

- 123 Freedman, B.  
 CONDITIONED REFLEX AND PSYCHODYNAMIC EQUIVALENTS  
 IN ALCOHOL ADDICTION. AN ILLUSTRATION OF PSYCHO-  
 ANALYTIC NEUROLOGY, WITH RUDIMENTARY EQUATIONS. —  
 Quarterly Journal of Studies on Alcohol, 9: 53-71, 1948.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - adjuv. - disc.  
 theo. addict. - disc. theo. treatm. A-1947.

The author supports the use of both conditioned reflex therapy and psychoanalytical therapy in the treatment of alcoholism. From such a position, the author explains the development of alcoholism from a psychoanalytical point of view and from the behavioral point of view. "Conditioned-reflex therapy should be employed for attack upon the conditioned external stimuli in conjunction with psychoanalytic liquidation of the internal reinforcements. The joint use of psychoanalysis and conditioned-reflex therapy would support the conditioned reflex of aversion to alcohol with an undermining of the conditioned intrapsychic stimulation of the need for its oral incorporation."

- 124 Galant, J.S.  
 ÜBER DIE APOMORPHINBEHANDLUNG DER ALKOHOLIKER.  
 [On the apomorphine treatment of the alcoholic.]  
 Psychiatrisch-Neurologische Wochenschrift, 36(26): 312, 1934.  
 G - gen. - gen. disc. - pat. - male - alcoh. - abst. - classical -  
 chem. - desc. treatm. - goal establis. - apomor. A-2275.

The treatment of alcoholics with apomorphine consists of injecting 0.5 to 1.0 cc under the skin and offering a drink of alcohol (12 to 15 cc) to the patient at the same time. This is done one hour before lunch. Before taking the alcohol, the patient must drink water in order to avoid too rapid absorption of alcohol by the stomach tissues.



One treatment consists of 10 injections, given daily. The reaction occurs 3 to 5 minutes after the injection. The success of the treatment does not lie in provoking nausea, but in creating a conditioned reflex against alcohol. During the injection it is suggested to the patient that he will feel ill on drinking the alcohol. When he does this, the apomorphine begins to act and the patient vomits. In this way a conditioned reflex against the sight of the glass may be created quite quickly. The dose of apomorphine depends on the patient himself; some do not react to 1 cc and in rare cases 2 cc have been given without creating harmful side effects. Young men between the ages of 20 and 35 years have been chosen for the treatment. They were strong drinkers, but physically and mentally in good health. The results of the treatment can be considered as very good. The patients have developed an aversion against alcohol, which will last for some time. As far as a permanent aversion is concerned, it will be discussed as soon as reports on the patients have been received.

125 Galant, J.S.

ÜBER DIE APOMORPHINBEHANDLUNG DER ALKOHOLIKER.  
[On the apomorphine treatment of the alcoholic.]

Psychiatrisch-Neurologische Wochenschrift, 38(8): 85-89, 1936.  
G - gen. - clin. study - pat. - more ss. - alcoh. - abst. -  
classical - chem. - indiv. - desc. side-effects - desc.treatm. -  
goal n. establis. - apomor. - emetine A-2279.

The use of apomorphine is regarded as harmful by some, and as useful by other psychiatrists. The author begins with a discussion on the advantages and the disadvantages of this drug. In Charkov, U.S.S.R., Ovcharenko and Neumar have begun the treatment of alcoholics with apomorphine. Slutchevski and Fricken have done experiments in Novgorod, creating conditioned reflexes in dogs. They have then applied their results to alcoholics. During 10 days, doses of 0.003 to 0.01 of apomorphine were injected every morning, 3 hours after breakfast, and a few minutes later 25.0 g. of vodka were given to the patient. The reaction of vomiting followed. After these 10 days, apomorphine in doses of 0.01 to 0.05, dissolved in the vodka, were given for another 10 days. On the twenty-first day the patient received vodka alone. The reaction took place and the conditioned reflex had been established. If no vomiting occurs after the consumption of vodka without apomorphine the treatment is continued until it does take place. Different side effects of the drug on patients are discussed. Sometimes strychnine is used with apomorphine, and it is suggested to the patient that he will become ill on drinking alcohol. This takes place, and 10 to 15 more injections of apomorphine are given, alternating with strychnine.

nine if the patient cannot take apomorphine alone. The dose of apomorphine varies, depending on the patient. Great emphasis is place on a psychotherapy accompanying the treatment. Forty-eight alcoholics were treated with apomorphine. The results of 22 of these have been obtained. Several patients abstain for a year or more, but the majority have begun to drink once more. Two cases of abstinence are precisely analysed. The remaining 20 patients abstained from 3 or 4 weeks to 3 or 5 months.

126 Gault, E. I.

AVERSION THERAPY IN EARLY ALCOHOLISM.

Medical Journal of Australia, 1: 278-280,

1967.

E - gen. - case disc. - few ss. - female - alcoh. - abst. -  
classical - electro. - adjuv. - indiv. - desc. treatm. - disc.  
generaliz. - goal n. establis.

B-3122.

A case report concerning the treatment of a fifteen year old female alcoholic who had been subjected to years of rejection, neglect, and mishandling is presented. Both of the girl's foster parents were involved in love affairs, drank heavily, and had violent fights with each other when in the home. When the foster-father's intended second wife was introduced, the girl rebelled to even a greater degree, did poorly in school and was finally put on probation for "lapsing into a career of vice and crime." Leaving school, she would run away for days at a time. She was finally placed in a convent, from which she also ran away, and was brought for treatment of her problems. Showing an interest to curb her drinking, electric shock therapy was instituted along with the psychotherapy she was undertaking. The patient underwent one aversion session a week for four months receiving nine shocks per session as she sipped beer from a glass. The girl was placed with a new set of foster parents and her behavior began to improve. Although the aversion was reduced, she was able to hold a job for longer periods of time, and seemed to be happier in the new family setting. A two-year follow-up description was added in which it was reported that the girl had left the foster home and had become pregnant. The aversion therapy had partially helped this girl to overcome her craving for beer. However, she remained an immature and damaged personality.

## 127 Glatt, M.M.

## AVERSION TREATMENT FOR ALCOHOLISM.

British Medical Journal, 1 (5275): 407-408, 1962.

E - lett. ed. - gen. disc. - alcoh. - abst. - classical - chem. -  
disc. theo. treatm. - apomor. - cit. cal. carb. - disul. -  
emetine A-2233.

The writer of this letter indicates that disulfiram treatment should not be discussed under the heading of "Aversion Treatment". As the writer states, generally "disulfiram (and C.C.C. (citrated calcium carbimide)) are not employed as conditioning treatments to produce 'aversion' but as 'conscious' deterrents of drinking after the patient has been warned about their sensitizing effects." The writer also quotes the Alcoholism Subcommittee of the World Health Organization which stated that "disulfiram should not be used for aversion therapy, for which emetine and apomorphine are much more appropriate."

## 128 Gordon, W.W.

THE TREATMENT OF ALCOHOL (AND TOBACCO) ADDICTION  
BY DIFFERENTIAL CONDITIONING; NEW MANUAL AND  
MECHANICAL METHODS.

American Journal of Psychotherapy, 25: 394-417, 1971.

E - res. - clin. study - pat. - more ss. - alcoh. - mod. - classical  
- chem. - indiv. - desc. side-effects - desc. treatm. - disc.  
contraind. - disc. generaliz. - disc. pro. pat. - goal establis.  
c.r., 65 - f.p., 3m. - r.r., 35 - d.r., 35 B-3123.

A differential conditioning treatment method for alcohol addiction is outlined, based on biologic principles and the theory of naturally occurring aversion. The study was conducted at a mental hospital on alcoholics who had a very poor prognosis because of the length of time they had been involved with drinking. A manual method is described, where the patient is seated in front of a stool with two basins (the bottom one containing 15 ml. of ammonia solution), cards at eye level printed with whiskey/water, wine/water, and a syringe clipped into his mouth. He is instructed to point to the corresponding card when the whiskey or water are added to the syringe, and is not allowed to swallow the substance. When water is added, and after pointing to the card, he then spits it out into the top basin. With the whiskey, an aversant (a solution of 1 gm. chloramphenicol, 8 ml. propylene glycol, 1 gm. ammonium bicarbonate, 1 ml. strong solution of ammonia, 3 ml. alcohol, and 3 ml. water) is added, causing a very unpleasant taste. In spitting out this substance, the basin with the ammonia solution is held up, so that additional dis-

comfort results from the inhalation of the fumes, causing retching and vomiting. This procedure is given daily for 12 days, and the water/whiskey sequence is random, so the patient is unable to predict which he will receive. Clinical results at a 3-month follow-up for 20 patients who completed treatment are as follows: 19 were judged as improved, 3 of which showed total aversion for whiskey, being replaced by moderate use of beer. For the remaining 16, the aversion was gradually wearing off, and 7 finally relapsed. Contraindications and possible complications are outlined. A suggested preferred aversant is denatonium benzoate, but is still pending approval for human consumption. A mechanical method for administration of this treatment, the Differential Conditioning Unit, is described. Further discussion applies Franks' principles of behavior therapy to the neurophysiologic concepts used in this study. Implications are given for further use to create aversions to sweet foods, compulsive eating and sexual perversion. In an addendum to the paper further refinements in the technique are presented.

- 129 Götestam, K. G., and Melin, L.  
 COVERT EXTINCTION OF AMPHETAMINE ADDICTION.  
 Behavior Therapy, 5(1): 90-92, 1974.  
 E - gen. - case disc. - few ss. - female - drug addict. - abst. -  
 classical - vis. - verbal - desc. treatm. - goal establis -  
 c. r. , 65 B-3755.

The authors used covert conditioning techniques to eliminate the injection of amphetamine by 4 female addicts. This method of treatment allowed the whole addiction situation to be treated and encouraged better patient participation and lower drop-out rates. The addicts were mainlining 100-200 mg. of amphetamine 3 to 5 times a day. Details of the circumstances in which the addicts injected themselves were obtained and were later used as each addict was asked to follow and vividly imagine situations, similar to the ones they provided, but in which they recieved no "flash" or felt no effect at all. Initially, each patient was guided by a therapist. Later, the patients undertook trials on their own until they were doing 8 to 15 trials a day, in 2 to 3 sessions. Each trial taking 3 to 4 minutes. Four case reports are provided in the paper. It was found that "after about one week of treatment with the extinction procedure of about 100 trials, the patient (did) not react to addiction situations with autonomic symptoms." Only one of the 4 addicts relapsed after undergoing this treatment.

- 130 Granone, F.  
CONDIZIONAMENTI E DECONDIZIONAMENTI IN IPNOSI.  
RICERCHE SPERIMENTALI, RISULTATI TERAPEUTICI.  
[Conditioning and deconditioning in hypnosis. Experimental research, therapeutic results.]  
Minerva Medica, 60: 453-474, 1969.  
I - gen. - gen. disc. - alcohol. - drug addict. - abst. - classical - hypn. (aver.) - desc. treatm. - disc. theo. treatm. B-3729.

The author discusses the experimental research and the therapeutic efforts carried out with hypnotherapy, using a conditioning and deconditioning technique. The different concepts connected with conditioned-reflex therapy are discussed as well as the use of hypnotherapy in developing an aversion to an abused drug or alcohol.

- 131 Granone, F.  
L'IPNOSI COME TERAPIA CONDIZIONANTE E DECONDIZIONANTE. [Hypnosis as a conditioning and deconditioning treatment.]  
Minerva Medica, 61: 4652-4654, 1970.  
I - gen. - gen. disc. - few ss. - alcohol. - abst. - classical - hypn. (aver.) - desc. treatm. - disc. theo. treatm. B-3278.

The author discusses the different concepts connected with conditioned-reflex therapy. Laboratory testing of conditioned reflexes under hypnosis is also described. The results indicated that, under hypnosis, conditioning and deconditioning was enhanced. The treatment of 3 patients, one an alcoholic, in which hypnotherapy, using a conditioning and deconditioning technique was used, is described.

- 132 Granone, F.  
LE TOSSICOMANIE E LA LORO CURA CON L'IPNOSI. [Hypnotism in the treatment of toxicomania.]  
Minerva Medica, 62(67): 3125-3138, 1971.  
I - gen. - gen. disc. - pat. - alcohol. - drug addict. - abst. - classical - hypn. (aver.) - hypn. (gen.) - desc. treatm. - disc. theo. addict. - disc. theo. treatm. B-3277.

After discussing terms relevant to alcoholism, and drug addiction, the author describes the main aims of treatment. In this regards, the author discusses the features of hypnosis in the treatment of addiction. A technique with hypnosis which is dealt with, is the creation of inhibition and aversion to the abused drug to discourage its use.



- 133 Hallam, R., Rachman, S., and Falkowski, W.  
 SUBJECTIVE, ATTITUDINAL AND PHYSIOLOGICAL EFFECTS OF  
 ELECTRICAL AVERSION THERAPY.  
 Behaviour Research and Therapy, 10: 1-13, 1972.  
 E - res. - clin. study - pat. - more ss. - female - male - alcohol. -  
 abst. - classical - electro. - disc. theo. treatm. - goal establis. -  
 c.r., 65 - f.p., 3m. B-3174.

The authors report 2 studies carried out on the subjective, attitudinal, and physiological effects of electrical aversion therapy. In the first study, "six middle-class alcoholic patients of stable background ---, five alcoholic patients from a lower socioeconomic group ---, and five sexual deviates were interviewed after electrical aversion therapy to determine their feelings. Four months after treatment 5 of the 6 patients in the first group were substantially improved, only 2 of the 5 in the second group were substantially improved and, 2 out of the 5 of the sexual deviates were substantially improved. From the interviews, it was determined that those patients who were optimistic about this type of treatment showed better results. In addition, the conditioning sessions were "well tolerated and few difficulties arose during and before sessions." The authors concluded that "the major subjective changes of therapeutic significance (were) those of repulsion or indifference and not fear or anxiety. In the sexual cases, some avoidance behavior was reported but there was little sign of this in the alcoholic cases." In the second study an aversion therapy group and a control group of alcoholics were matched. Both groups received group therapy, A.A. meetings, drug therapy and rehabilitation. Heart rate response (HRR) and skin resistance (SR) to fantasies and to slides, and measurement of attitude towards 10 slides, were taken before and after their treatment period. Graphs of the data are provided. After treatment both groups of patients showed more negative attitudes to drinking stimuli. Between the groups, the aversion patients found the drinking slides more distasteful after treatment than did the controls. "The aversion therapy group showed no evidence of having developed SR's or HRR's conditioned to the alcoholic stimuli." Six of the 10 aversion patients and 2 of the 8 controls were successfully treated. "The only significant physiological data (showed) a persisting heart rate sensitivity to all stimuli, in successful cases irrespective of type of treatment."

- 134 Hamburg, S.  
 BEHAVIOR THERAPY IN ALCOHOLISM. A CRITICAL REVIEW OF  
 BROAD-SPECTRUM APPROACHES.  
 Journal of Studies on Alcohol, 36(1): 69-87, 1975.

E - gen. - gen. disc. - review - alcohol. - abst. - mod. - classical - operant - electro. - pos. reinfor. - relax. - syst. desens. - vis. - verbal - combin. - desc. treatm. - disc. theo. addict. - disc. theo. treatm. B-3799.

The author states that "the aims of this article are to describe the broad-spectrum approaches (of behavior therapy in alcoholism), to discuss the conceptions of alcoholism which underlie them, and to evaluate the empirical evidence for their effectiveness." With this type of approach, "complex problems are broken down into separate behavioral components - e. g., conditioned anxiety responses, behavioral deficits - each amenable to modification by one of a variety of techniques." The variety of techniques include electrical aversion therapy, relaxation training, covert sensitization, systematic desensitization, assertive training, and training of alternatives to drinking. The author discusses the tension reduction hypothesis (TRH) in the etiology of alcoholism. Citing the results of several studies, the author found that "the available evidence does not support the basing of behavior therapy for alcoholism exclusively on the TRH. If the TRH is not, in fact, adequate to account for alcoholism, then it is to be expected that treatment approaches relying heavily on the TRH will overlook factors unrelated to tension and its reduction which are crucial to the maintenance of an alcoholic's behavior." Controlled drinking as a treatment goal is dealt with followed by the newer approaches to treatment which "differ as a group from the older approaches in that treatment emphasis is shifted from eliminating tension, ---, to increasing the probability of response. The author concludes by listing the 7 steps that he would include in a comprehensive broad-spectrum treatment for alcoholism.

135 Hedberg, A.G., and Campbell, L., III

A COMPARISON OF FOUR BEHAVIORAL TREATMENTS OF ALCOHOLISM.

Journal of Behavior Therapy and Experimental Psychiatry, 5(3/4): 251-256, 1974.

E - res. - clin. study - out-pat. - more ss. - female - male - alcohol. - abst. - mod. - classical - electro. - relax. - syst. desens. - vis. - verbal - desc. treatm. - goal establis. - c. r., 55 - f. p., 3m. B-3810.

The authors carried out a controlled therapeutic study to compare the following behavioral treatment methods for alcoholism: systematic desensitization, covert sensitization, electric shock, and behavioral family counselling. The 45 male and 4 female alcoholics, who were randomly selected to one of the 4 groups, were treated

on an out-patient basis. Three hourly sessions per week were provided the first 3 weeks, 1 hourly session per week for the next 5 weeks, 1 hourly session each other week for the next 8 weeks, and 1 hourly session per month for the last 2 months. The patients were able to chose between abstinence or controlled drinking as their goal. While 12 patients were originally assigned to the electric shock therapy, there remained only 4 after the third session. All the other treatment groups had 15 patients. The 4 therapeutic programs are described. The percentages of the patients who achieved their goal or showed improvement, after a 6 months follow-up period, for the following therapies were: family counselling, 74 and 13 percent; systematic desensitization, 67 and 20 percent; and covert sensitization, 40 and 27 percent. Only 1 patient showed improvement following electric shock therapy. The results indicated that these methods appear more promising than non-behavioral methods. Secondly, it appears that behavioral family counselling should be examined further as an effective treatment for alcoholism.

## 136 Hobson, J.A.

## OBSERVATIONS ON THE TREATMENT OF ALCOHOLIC PATIENTS.

British Journal of Addiction, 49(1&amp;2): 5-11,

1952.

E - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. - group - desc. treatm. - disc. pharm. - apomorph.

A-2234.

The author has treated nearly a hundred alcoholics and discusses those aspects of treatment which are important. The doctor felt that the first interview with the alcoholic was very important in determining the success of treatment and spends several paragraphs discussing this aspect. Later in the treatment, appropriate psychiatric treatment should be provided but only after the alcoholic has stopped drinking. If the alcoholic was able to accept the fact that he could never drink again, he was treated for a week or 10 days with insulin and large doses of vitamins and then was given conditioned reflex therapy. This treatment was found to be more successful using apomorphine than emetine or antabuse. It was felt that besides causing an aversion to alcohol, apomorphine also reduced the craving for alcohol. If the patient was in good physical condition, it was found that apomorphine treatment was not so unpleasant for him. The author also noted that some patients remained abstinent even in the absence of an aversion to alcohol. Blood and urine samples were taken from some patients undergoing this treatment. A severe salt and water depletion with an extrarenal uremia and hemoconcentration. The chlorides always disappeared from the urine after about 48 hours of treatment. The

blood urea rose to about 50 mgm. per 100 c.c. of blood but quickly returned to normal when treatment was stopped and fluids were given. However, the patients remained depleted of salt. The present author preferred to treat 2 or 3 patients simultaneously and encouraged the patients to remain in hospital for a longer period of time. During the rehabilitation period, the patients were encouraged to see their old friends and handle their situations without the use of alcohol. Jobs were sought for all patients before they left hospital. The author found additional drugs which diminished the craving for alcohol in people. One was called Carbachol and the others were endocrine extracts.

- 137 Holzinger, R., Mortimer, R., and Van Dusen, W.  
 AVERSION CONDITIONING TREATMENT OF ALCOHOLISM.  
 American Journal of Psychiatry, 124: 246-247, 1967.  
 E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
 classical - chem. - indiv. - desc. treatm. - goal n. establis. -  
 c. r., 10 - f. p., 3m. - r. r., 45 - succinyl. B-3124.

Twenty-three male alcoholics volunteered to be injected with 20 mg. of succinylcholine as their favorite drink was presented to them. Their average age was 39 years, they had an average of 11.9 grades of schooling and some had ten years of problem drinking. Each subject, laying on a cot and attended by a psychologist and anesthesiologist, was asked to concentrate on his favorite drink which he was handed. Paralysis hit when the subject was about to taste the drink for the 6th time. The psychologist then held the bottle so that a few drops entered the subject's mouth. In 22 cases, oxygen was given when severe bradycardia developed. These men were without oxygen for 43 to 90 seconds, unable to breath but completely conscious. The treatment was considered to be unpleasant by all subjects but they were enthusiastic about its promise. However, at an average of 4.2 months after treatment, only 2 of 21 were not drinking and 2 others were drinking periodically. A possible factor related to these poor results was the poor life situations which these men went back to after treatment.

- 138 Hsu, J. J.  
 ELECTROCONDITIONING THERAPY OF ALCOHOLICS: A  
 PRELIMINARY REPORT.  
 Quarterly Journal of Studies on Alcohol, 26: 449-459, 1965.  
 E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
 classical - electro. - indiv. - desc. side-effects - desc. treatm. -  
 goal n. establis. - c. r., 10 - f. p., 3m. - r. r., 15 -



d. r. , 35

B-3125.

Forty male alcoholic patients volunteered for electric aversion conditioning therapy. Each patient was presented with a tray containing six 1 ounce cups filled with beer, wine, whiskey, milk, water, and orange juice. He was asked to drink them one by one, in any order he chose. An electric current 2 to 5 ma. , was applied to the patient's head 0.5 to 5 seconds after the patient swallowed an alcoholic drink. The current lasted 30 seconds. This treatment was given daily for 5 days. During the last 2 sessions, choice situations were incorporated to develop an avoidance response in the patient. The patients were asked to return in 4 weeks and 6 months for reinforcement treatment. During the sessions, all the patients showed varying degrees of anxiety. Many described the treatment as extremely painful and the worst experience they have ever had. One patient's written description of his experience is given along with discussions of the immediate and later after-effects of treatment. Five case histories are presented illustrating the effects on behavior which this conditioning treatment has. Two months after the last patient received reinforcement treatment, 13 of 20 patients, who had received the set of treatments, were working or seeking employment. Seven of these were known to have some exposure to drinking. The paper is concluded by a discussion of the benefits and the safety of this type of treatment.

139 Ichok, G.

LES REFLEXES CONDITIONNELS ET LE TRAITEMENT DE L'ALCOOLIQUE. [Conditioned reflexes and the treatment of the alcoholic.]

Le Progrès Médical, 45: 1742-1745,

1934.

F - gen. - gen. disc. - alcoh. - abst. - classical - chem. - indiv.

- desc. treatm. - disc. theo. treatm. - goal establis. -

apomor.

A-2098.

A brief history of the development of the theory of conditioned reflexes is presented. The author shows how the idea was developed from Pavlov's idea of "constant" reflexes, (ie. those reflexes whose response to a certain stimulus is invariable), to one where direct stimulation of the mucous of the buccal cavity was not necessary to cause salivary secretion (Wulfson). Further studies of this idea are described (Tolotchinov), and it is emphasized that direct stimulation of the "respondant" is necessary for a conditioned reflex to develop. The author is interested in the theory of Markovnikov, who proposes the use of apomorphine which induces vomiting when alcohol is ingested. Subjects are given 0.3cc. of a solution and 1% apomorphine and minutes thereafter, an alcoholic beverage. Five or six



sessions are enough to develop an "anti-alcoholic" reflex merely at the sight of the beverage, allowing for the omission of the apomorphine. The author stresses at the same time, the need, for various methods of psychotherapy "to maintain the alcoholic in his good intentions." Further experimentation with this idea is encouraged.

140 Izikowitz, S.

OM ALKOHOLISMENS MEDICINSKA TERAPI OCH PROFYLAX, NAGRA SYNUNKTER OCH ERFARENHETER. [On the medical therapy and prophylaxis of alcoholism; some viewpoints and experiences.]

Nordisk Medicin, 31: 2039-2048,

1946.

S - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical - chem. - adjuv. - indiv. - desc. treatm. - c.r., 65 - f.p., ly. - r.r., 15 - apomor. - emetine

A-2333.

The author discusses acute intoxication, the definition and characteristics of alcoholism, and its treatment. The therapy which was used was a modified version of Voegtlin's method. Using apomorphine, pentozol, and emetine, the author treated 112 alcoholics giving them daily aversion sessions for the first 4 days and then less often. A total of 7 to 11 sessions were provided for each. The author felt that aversion therapy served to break the vicious circle of drinking and to make the patients more amenable to psychotherapy. Psychotherapy was included in their treatment. The percentages of those who had remained abstinent for the following periods of time were: Over 48 months, 44 percent; 36-47 months, 39 percent; 24-35 months, 37 percent; 12-23 months, 60 percent; 6-11 months, 55 percent; and 2-5 months, 47 percent. The average percentage of patients who showed much improvement over these periods of time was 27.0 percent and the average percentage of patients who relapsed over these periods of time was 19.7 percent.

141 Johnston, J.L.

EXPERIENCES WITH A CONDITIONED AVERSION TYPE OF TREATMENT FOR ALCOHOLISM IN A SERVICE SETTING.

Medical Services Journal Canada, 22(6): 391-398,

1966.

E - res. - case disc. - clin. study - pat. - more ss. - male - alcohol. - abst. - classical - chem. - indiv. - desc. treatm. - disc. probl. pat. - goal n. establis. - c.r., 10 - f.p., 9m. - succinyl.

B-3237.

The author discusses chemical aversion therapy for alcoholism and the learning theories it is based on. In chemical aversion therapy,

"the most difficult single detail (was) the proper timing of the first administration of liquor which must be given just before the onset of nausea." The author found that in using the drug emetine, he encountered this timing problem. A study carried out by another researcher who used the drug succinylcholine chloride (Scoline) in chemical aversion therapy is described. Twenty mg. I.V. of this drug was administered to each patient and, when associated with alcohol, created an aversion to alcohol. With this drug, a sudden sensation of twitching in the muscle is experienced and the initial disturbance of breathing comes 24 or 50 seconds following the injection of succinylcholine. "The interval between the first disturbance and paralysis of breathing (was) short, averaging out around 10 seconds. The times for return of first respiration varied between 85 and 130 seconds---." With this drug, timing was less of a problem. The author treated 12 alcoholics in this manner. These men had found A.A. of little benefit and had little success with Antabuse or Temposil. All the patients were healthy. Each patient reclined with a saline intravenous drip into his arm. Oxygen was available and the injection was given by the hospital anaesthetist. "The Scoline (20 mg.) was injected into the intravenous drip and timed to take effect when the patient was in the act of tasting the alcohol." After treatment, they all felt that the treatment would not be as bad as it was and stated that they would never go through it again. After a 6 month period, 2 patients were considered to have had good results, 5 were considered improved, and 5 showed little improvement. Three case histories are presented.

142 Kabanov, I. P.

KOMPLEKSNOYE LECHENIYE KHRONICHESKOGO ALKOGOLIZMA OTVAROM BARATSA I TETURAMOM. [Complex treatment of chronic alcoholism with a club moss decoction and tethuram.]

Sovetskaia Meditsina, 34(1): 152-153, 1971.

R - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. - desc. treatm. B-3297

It has been suggested that many treatment methods for chronic alcoholism have some therapeutic effect but still were not very successful. In the opinion of most authors, the best method was the complex one using "tethuram". At the same time, a type of grass, "baranec" was boiled and given, along with "tethuram". For treatment, .45 gm. of "tethuram" was given to each patient for three or four days. At the same time, they drank 100 ml. of "baranec" each a day followed, ten minutes later, by 30 gm. of vodka. On drinking the vodka, the patient experienced nausea, an unsteady walk, sharp pains, and vomiting. Complications did arise in some patients. Later, vodka was offered to the patients and they felt an aversion to

the drink more and more. The characteristics of the effect of this kind of treatment were more evident when compared with the treatment of alcoholism using "tethuram" and apomorphine.

143 Kant, F.

THE CONDITIONED-REFLEX TREATMENT IN THE LIGHT OF OUR KNOWLEDGE OF ALCOHOL ADDICTION.

Quarterly Journal of Studies on Alcohol, 5: 371-377, 1944.

E - gen. - gen. disc. - alcoh. - abst. - classical - disc. theo. treatm. A-1949.

After a short discussion of the different types of problem drinkers, the author deals with the use and benefits of the conditioned-reflex treatments of alcoholics. The danger of treating the symptom rather than the cause of the alcoholic's problems with this type of treatment is presented. Support is given that alcoholics do not substitute another type of drug if forced into abstinence. Drinking is merely a pseudosolution for his problems so that if abstinence was adhered to, real help for the alcoholic through therapy could be possible. Arguments supporting both sides of the conflict of abstinence versus moderate drinking as the goal are presented. The author feels that much of the difficulty would be eased if the alcoholic joined a society in which abstinence was the rule and becomes full of meaning for the alcoholic and worth fighting for. Conditioning appears to be a rational way of achieving abstinence quickly. This treatment is effective for at least several months. The different types of treatments for alcoholics have provided very disappointing results. This was especially true with institutional treatment in which the patients were so cooperative during treatment but returned to drinking when they went back to the streets. Conditioned-reflex treatment has various possibilities as an adjunct to the other types of treatment. If this treatment could be used in those so-called "hopeless cases", an initial conditioning period, plus 4-day reconditioning periods three times a year, could ease somewhat the suffering of the alcoholics, their wives, and children. Although the treatment is distasteful and disagreeable, most of the patients treated to date did not object and were encouraged by how quickly the craving for alcohol could be changed into an aversion.

144 Kant, F.

FURTHER MODIFICATIONS IN THE TECHNIQUE OF CONDITIONED-REFLEX TREATMENT OF ALCOHOL ADDICTION.

Quarterly Journal of Studies on Alcohol, 5: 229-232, 1944.

E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - indiv.

- desc. treatm. - emetine - pilocar. - ephedrine

A-1948.

Modifications in the chemical conditioned-reflex treatment of alcoholism are discussed. The next important factor in the effectiveness of conditioning is the prevention of absorption of alcohol by the patient at anytime during treatment. For this reason, alcoholic beverages are no longer used to produce gastric irritation leading to vomiting and nausea. These feelings, stimulated with emetine, are in the first sessions associated to the sight, smell, and taste of alcohol with the patient spitting out, rather than drinking the alcohol. Only in the later sessions, in which there is some assurance of sickness developing, is the patient allowed to swallow the alcohol. The first sessions are also of short duration so that the patient does not become accustomed to the ill effects. The treatment includes an injection of an emetine-pilocarpine-ephedrine solution along with oral emetine and sodium chloride dissolved in water.

145 Kant, F.

#### THE USE OF THE CONDITIONED REFLEX IN THE TREATMENT OF ALCOHOL ADDICTS.

Wisconsin Medical Journal, 44: 217-221,

1945.

E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. -  
classical - chem. - desc. treatm. - goal establis. - c. r., 85 -  
f. p., 2y. - r. r., 25 - emetine - pilocar. - ephedrine

A-2044.

The author provides statistics for the State of New York showing the number of men and women per 100,000 inhabitants who were admitted for the first time because of alcoholic psychosis during the years 1919 to 1941. Comparative figures for all psychoses are also provided. Moderate drinkers, excessive drinkers, and chronic alcoholics are differentiated. The psychologic causes for alcoholism are quite varied but the explanation for why a person drinks is simple. Alcohol becomes an escape from the alcoholic's difficulties in life. When abstinent, the alcoholic's personality integration and adjustment improve as he has the ability to find real solutions to his problems. Drinking provides only pseudo-solutions. With conditioned reflex therapy, a patient can experience abstinence and improve his situation. The purpose of this treatment is to produce an aversion against the sight, smell, and taste of alcoholic beverages. The author conditioned 31 patients, after each was free of signs of acute alcohol intoxication or of delirious symptoms. Usually 8 treatments were provided over a hospitalization period of 14 days. A description of the method is given. Each patient was administered a hypodermic injection containing emetine, pilocarpine, and ephedrine. The height of nausea usually occurred around



15 minutes after the injection. This point was readily detectable in each patient and was very important as, in the later sessions, alcohol was sipped by each patient and the right timing was necessary to prevent absorption of the alcohol. Reconditioning was advisable 3 to 6 months after treatment. Six of the 31 patients relapsed within the year and 7 months follow-up period. However, only 2 were drinking excessively at the end of this period. The benefits of this type of treatment are outlined.

- 146 Kant, F.  
 USE OF CONDITIONED REFLEX IN TREATMENT OF ALCOHOL ADDICTS.  
 Yearbook of Neurology, Psychiatry and Endocrinology, pp. 371-372, 1945.  
 E - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical - chem. - desc. treatm. - goal establis. - c.r., 65 - r.r., 15 - emetine A-2272.

The method used by the author in the conditioned reflex treatment of alcoholism is explicitly outlined. At the beginning of a session, the alcoholic was given 2 10 oz. glasses of tepid water containing 1 1/2 gm. emetine and 1 gm. sodium chloride. He is also given an injection of 6 to 8 minims aqueous solution containing 3.25 gm. emetine HCl, 1.65 gm. pilocarpine HCl, and 1.5 gm. ephedrine SO<sub>4</sub> per 40 c.c. Tartar emetic solutions were also added to the beverages. The patient was only allowed to see, smell, and taste the alcoholic beverage during the early treatments. Sessions were ended when emesis occurred. Timing was crucial to prevent the absorption of alcohol, which interfered with the establishment of a firm reflex. Once the unconditioned stimulus, the alcohol, had its effect the patient was allowed to drink the alcohol because then he would vomit the liquor. The average length of treatment was 14 days. Reconditioning sessions should be held 3 to 6 months after the initial treatment. Six of 31 alcoholics treated in this way relapsed, 3 only temporarily. This treatment prevents the symptoms of alcoholism and allows therapy of the causative personality structure abnormality of the alcoholic to take effect.

- 147 Kardos, G.  
 AZ ISZÁKOSSÁG, AZ ALCOHOLIZMUS ÉS AZ ALKOHOLOS PSYCHOSISOK PHARMACOTHERAPIAJAROL. [Pharmacotherapy of drunkenness, alcoholism and alcoholic psychoses.]  
 Alkoholologia, 4: 4-15, 1973.  
 H - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -



adjuv. - desc. treatm. - disc. theo. addict. - disc. theo. treatm.

B-3767

The author discusses the causes of alcoholism. It is stated that alcoholism is "triggered off by either contracted or congenital co-pathogenic biochemical factors." With this as his basis, the author feels that abstinence is a necessary condition in the treatment of alcoholism. To achieve this, the author used aversion therapy to prevent early relapses and psychotherapy to prevent later relapses. At the same time, treatment of the alcoholic's acute physical diseases, caused by alcohol, must be carried out. This article, then, deals with the "most important methodological problems of aversion and disulfiram treatment, of metronidazol and cynamid therapies." It also deals with the treatment of "acute, subacute, and chronic neuropsychiatric syndrome caused by acute and chronic alcohol intoxication."

148 Kattwinkel, E. E.

DEATH DUE TO CARDIAC DISEASE FOLLOWING THE USE OF EMETINE HYDROCHLORIDE IN CONDITIONED-REFLEX TREATMENT OF CHRONIC ALCOHOLISM.

New England Journal of Medicine, 240(25): 995-997, 1949.  
E - gen. - case disc. - pat. - few ss. - male - alcohol. - abst. - classical - chem. - indiv. - desc. side-effects - emetine A-2025.

The author presents a case description of a 33 year old man who was admitted to hospital and died from the toxic effects of emetine administration following a series of ten conditioned-reflex treatment sessions for alcoholism. He had received a total amount of .75 gm. of emetine hydrochloride. A rapid heart rate was observed during aversion therapy, however, it was attributed to nervousness. On admission one week after the sessions finished, he complained of weakness, dyspnea, tachycardia, and nausea. The results of a complete physical examination of the patient are provided. The diagnosis was one of toxic myocarditis due to emetine. He showed signs of peripheral shock and died 48 hours after admission. Autopsy results are provided. Death was apparently due to the toxic action of emetine on the myocardium. Studies are discussed in which death due to emetine have been reported. Deaths have been caused by congestive heart failure and coronary occlusion. Electrocardiographic changes have been found after emetine administration in animals. Researchers have found a delayed appearance of electrocardiographic abnormalities with humans. There is no specific treatment for the cardiac damage due to emetine, only symptomatic management. The author suggests that safeguards should be taken for all patients receiving emetine condi-

tioned-reflex treatment for alcoholism. An electrocardiogram should be taken before, during, and one to two weeks after treatment. Early signs of cardiac damage should be watched for as the pathologic process is reversible if found in time.

- 149 Kindwall, J. A. , and Ziegler, L. H.  
 THE CONDITIONED REFLEX TREATMENT OF ALCOHOLISM.  
 Archives of Neurology and Psychiatry, 55: 152-154, 1964.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. -  
 electro. - desc. treatm. - disc. probl. pat. - goal  
 establis. A-1950.

In a report of a meeting of the Illinois Psychiatric Society, the speakers discuss the conditioned-reflex treatment of alcoholism and respond to questions on the subject. Short case studies are presented of three alcoholics that have been treated. Two of these patients had personality problems with one relapsing and returning to drinking and the second becoming quite unable to tolerate alcohol. The first did return for more treatment and finally achieved abstinence. It is believed that other factors, besides the actual aversion, such as sacrifice, pride, and emotional release may have an important bearing on the results. This treatment has a useful place in the whole sphere of alcoholism treatment. Related animal studies are described and the point that it is the psychological effects of alcohol that are craved, not the alcohol itself, was made by some of the patients. An aversion to the sight, smell, and taste of alcohol is attempted. Patients have even shown aversion to the clinking of glasses and the popping of corks. The intravenous injection of alcohol in this method of treatment is of little consequence as there would be no chance for the conditioning mechanism, the rejection by the stomach, to take effect. The patients' sincerity to succeed with this treatment are tremendously important. The speakers conclude that the correction of the fundamental problems of alcoholics may result in greater improvement, but that the relief these persons feel when an aversion is established is amazing.

- 150 King, J. P.  
 DISCUSSION OF "THE CONDITIONED REFLEX TREATMENT OF  
 CHRONIC ALCOHOLISM. VIII. A REVIEW OF SIX YEARS'  
 EXPERIENCE WITH THIS TREATMENT OF 1,526 PATIENTS. "  
 Journal of the American Medical Association, 120(4): 270-271, 1942.  
 E - gen. - gen. disc. - more ss. - alcoh. - abst. - classical -  
 goal establis. - c. r. , 65 - f. p. , 3m. A-2040.

This participant, of a discussion following the presentation of a paper by F. Lemere et al. (J. A. M. A., 120(4): 270-1, 1942), found that only eight of 105 alcoholics chose to undergo conditioning reflex treatment. While each patient was told of its possibilities, no effort was made to induce their participation. Many alcoholics do not wish to be relieved of their ability to drink. Others loath the strenuous process of conditioning. It was felt that five of the eight patients were successfully conditioned against alcohol. Two of these patients relapsed after periods of three and nine months of total abstinence. The three others remained totally abstinent for three, and ten months. These patients were all alcoholics of long standing and had failed to improve under different treatments. As no reinforcements were provided for those patients, it is likely that the number of cures would have been greater if they had been provided.

151 Kø, S.

NEURE ERFAHRUNGEN MIT APOMORPHIN BEI  
GEISTESKRANKEN UND ALKOHOLIKERN. [New experiences with  
apomorphine in mental patients and alcoholics.]

Psychiatrisch-Neurologische Wochenschrift, 38 (14): 159-162, 1936.  
G - gen. - case disc. - few ss. - alcoh. - abst. - classical - chem.  
- desc. treatm. - goal establis. - apomor. A-2350.

The author first explains in detail how apomorphine is used to treat schizophrenics, psychotics, and epileptics. Then he discusses the treatment of two alcoholics, and their reactions to the drug. Both patients drink 15 gr. strong wine in 1/2 glass of water, the 1 cc. of apomorphine is injected. The characteristic reactions such as dizziness, nausea, and vomiting, all described in detail, begin after 2 minutes. The following day the same procedure is repeated; the reactions occur after 5 minutes. Afterwards the patients feel exhausted and sleep for several hours. The treatment is continued for 7 days, during which the odour of the wine alone begins to create nausea. After the treatments the patients are still closely observed by family members and physicians. Neither of the two has begun to drink; they do not accept drinks offered to them, they have gained weight and feel well. Their intentions are never to drink again, and to work hard in order to be useful to society. The author agrees with Bresler and other doctors who use apomorphine in treatments of alcoholics. It is a harmless drug to which one cannot become addicted.

152 Koller, A.

DIE BEHANDLUNG DES CHRONISCHEN ALKOHOLISMUS.

[ The treatment of chronic alcoholism. ]

Gesundheit und Wohlfahrt, 26: 611-619,

1946.

G - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -

adjuv. - desc. treatm. - apomor. - emetine

A-2339.

Alcoholism is one of those illnesses which is very widespread, but rarely does the patient admit that he is ill. It is necessary to treat alcoholism with psychotherapy, as is done with other mental illnesses. Reports from Anglo-Saxon and Scandinavian countries state that many alcoholics have been successfully treated with apomorphine and emetine, but there may be unpleasant side effects in this method. In America, Lemere and Voegtlin report having treated 1526 patients with emetine. 1194 of them have later answered questions about their condition; there were 25.2% relapses during the first 2 years following treatment, 47.5% from 2 to 4 years later, and 48.5% after 4 years or more. Where treatments were repeated, more success has been recorded. Dr. John Dent has described in 1934 an apomorphine treatment, which he used on alcoholics suffering from anxiety and fear. It is explained to the patient that he can be cured, and that the treatments which take place in a clinic, will be unpleasant but will last only a short time. On the first day, he receives no lunch but may drink as much as he likes. 0.06 g. apomorphine are then injected, and the reactions of nausea, rapid, heartbeat and exhaustion take place. 4 hours later the injection is repeated, and then every 4 hours 0.0016 g. are injected. Generally a conditioned reflex against alcohol is established by the second day. He is then served tea and sandwiches. Emetine treatments last 8 to 10 days; 4 to 8 treatments are given during this time. First emetine is injected, and after 30 to 45 minutes the patient may drink alcohol. Nausea follows. The conditioned reflex resulting at the end of the treatment is reinforced at intervals of 1 to 3 months. If a patient does not receive a psychotherapy, he may turn to another drug instead of alcohol. If the patient is willing to be treated, success is obtained much easier. A description of illnesses caused by alcoholism, and their treatments, follows.

153 Kondas, O.

SOME FACTORS AFFECTING AVERSION THERAPY WITH ALCOHOLICS.

Protialkoholicky Obzor, 6: 2-6,

1971.

E - gen. - clin. study - pat. - more ss. - alcoh. - abst. -

chem. - adjuv. - disc. probl. pat. - apomor.

B-3240.

Other investigators reported the degree of success of aversion



treatment in alcoholics to be between 25 and 50 percent. The author treated 2 groups of alcoholics with a combination of chemical conditioning, using apomorphine, group psychotherapy, and rehabilitation activities. In this paper, the author discusses those patient variables and therapeutic variables which seemed to lead to treatment success. Using the results of his studies, the author found that the difference between psychopaths and all other alcoholics in remaining abstinent was significant. Alcoholic neurotics responded significantly better to aversion therapy than did all other alcoholics. There was a tendency for alcoholics, considered to be at the third stage of alcoholism to show greater improvement but this was not statistically significant. Only 5 of 18 patients, 30 years old or younger, abstained totally, after treatment. The author concluded that aversion therapy was most suitable for chronically depressed patients, disulfiram for compulsive patients, and group hypnotherapy for the passive dependent type of patients. Dealing with therapeutic variables, it was found that the abstinence rate was not related to the number of aversion sessions the patient undertook. In addition, a highly significant difference was obtained in favour of those patients who also received more intensive psychotherapy. A significantly greater number of patients who had kept in contact with antialcohol centers after treatment remained totally abstinent for a year than did those who did not. Also repeatedly treated alcoholics showed only slight improvement over those who were treated only once. The author goes on to discuss alcoholism and the benefits of aversion and other therapies. "In conclusion, it seems that complex problems, such as alcoholism with many known and unknown variables, requires, a complex system of therapy procedures."

- 154 Kraft, T. , and Al-Issa, I.  
 ALCOHOLISM TREATED BY DESENSITIZATION: A CASE REPORT.  
 Behaviour Research and Therapy, 5:69-70, 1967.  
 E - res. - clin. study - out-pat. - few ss. - male - alcoh. - mod. -  
 - classical - hypn. (gen.) - syst. desens. - combin. - indiv. - desc.  
 treatm. - disc. probl. pat. - goal establis. - f. p. , ly. B-3156.

A 20 year old male was treated with systematic desensitization, with the aid of hypnosis, to overcome his fear of carrying on a conversation and his inability to do so. It was felt that if the tension produced by this situation was eased, he would have no need to drink excessively. The list of anxiety-producing situations consisted of 27 items and were presented to the patient using visual imagery only. Twenty-three desensitizing sessions, each lasting, 1 hour, were carried out. Improvement in the patient's social relationships appeared after the 2nd treatment session and his need



for alcohol diminished. Fifteen months after treatment, the patient remained sober, occasionally drinking half a pint of beer. Systematic desensitization is recommended for those cases in which alcoholism is a symptom of neurotic behaviour motivated by fear or anxiety.

- 155 Kraft, T., and Al-Issa, I.  
 DESENSITIZATION AND THE TREATMENT OF ALCOHOL  
 ADDICTION.  
 British Journal of Addiction, 63: 19-23, 1968.  
 E - res. - case disc. - clin. study - pat. - few ss. - male - alcoh.  
 - mod. - classical - hypn. (gen.) - syst. desens. - combin. -  
 indiv. - goal establis. - f.p., 3m. - f.p., 9m. B-3127.

Clinical studies of two male alcoholic patients are presented. Short case outlines are provided describing excessive drinking for numerous years with these 20 and 32 year old drinkers. The technique of systematic desensitization was used with the aid of hypnosis, in the first case, and methohexitone sodium, in the second case, to promote relaxation. This treatment was based on the assumption that alcohol was used as a way of dealing with anxiety in situations involving conversation. The patients were given 5 and 6 desensitizing sessions, respectively, in which they imagined talking to a range of 1 to 20 friends and 1 to 80 strangers, in combination with the friends and by themselves. After follow-up periods of 6 and 9 months, both patients drank the occasional beer but had lost their desire to drink alcohol excessively.

- 156 Kraft, T.  
 A NOTE ON AVERSION THERAPY.  
 Psychological Reports, 27: 165-166, 1970.  
 E - gen. - gen. disc. - few ss. - male - alcoh. - abst. - classical  
 - chem. - electro. - vis. - verbal B-3259.

A difficulty of aversion therapy is that while the undesired behavior may be suppressed, the underlying disturbances causing that behavior may be left unaltered. "The principle of aversion therapy is to make a deviant behavior so unpleasant that it is no longer used by the patient." The author gives examples of two men, one treated for gambling and the other for alcoholism, who replaced their undesired behaviors with conversation symptoms. This is due to the fact that the underlying disturbances in these men were not treated. While their behaviors were changed, they possibly are no better off. "Some behavior therapists believe that a more permanent recovery

may be effected by employing systematic desensitization to remove underlying disturbances." Eight alcoholics, who were treated with systematic desensitization and relaxation for their social anxiety, were found to have "lost their desire to drink to excess and yet could continue drinking socially."

- 157 Kraft, T. , and Wijesinghe, B.  
 SYSTEMATIC DESENSITIZATION OF SOCIAL ANXIETY IN THE  
 TREATMENT OF ALCOHOLISM: A PSYCHOMETRIC EVALU-  
 ATION OF CHANGE.  
 British Journal of Psychiatry, 117: 443-444, 1970.  
 E - gen. - clin. study - tables - more ss. - alcoh. - abst. -  
 classical - syst. desens. - disc. probl. pat. B-3179.

Nine alcoholic patients, whose period of dependence varied from 6 months to 17 years, were given systematic desensitization treatment for social anxiety. The aim was to counteract the social anxiety they experienced. The patients completed three questionnaires immediately before and after treatment. The questionnaires were: the Taylor Manifest Anxiety Scale, the Mandsley Personality Inventory, and the Minnesota Multiphasic Personality Inventory. The anxiety level, as indicated on the first questionnaire, was significantly reduced after treatment although the post treatment level was still above the mean for Taylor's group. As indicated on the second questionnaire, no significant change occurred with extraversion, but the neuroticism scores showed significant reduction after treatment. The pre-treatment M. M. P. I. scores gave a prominence to psychotic patterns. However, after treatment, the scores fell within the normal range. It was found that the total hostility of the group was greatly reduced after treatment although the direction of the hostility remained unchanged. It might be concluded that while this treatment is effective in changing symptoms and certain attitudes, the central personality traits and attitudes appear to be much more resistant to change.

- 158 Krasnegor, N. A. , and Boudin, H. M.  
 BEHAVIOR MODIFICATION AND DRUG ADDICTION: THE STATE  
 OF THE ART.  
 In: American Psychological Association. 81st Annual Convention  
 Proceedings., Volume 8, Part 2, pp. 913-914, 1973.  
 E - gen. - gen. disc. - out-pat. - female - male - drug addict. -  
 abst. - operant - electro - pos. reinfor. - combin. - adjuv. -  
 indiv. - group - desc. treatm. - disc. theo. treatm. B-3770.

The authors review the literature in behavior modification and drug addiction and discuss the application of behavior modification techniques to the treatment of opiate addiction. Six articles were found dealing with behavior therapy for opiate addicts. In each case, some form of aversive conditioning was used, each of the patients was motivated to achieve abstinence as their treatment goal, and none of the studies treated more than 2 patients. The authors describe the use of contingency contracting in decelerating and eliminating drug seeking in a group of self-selected heroin addicts. Such a contract reflects five basic content areas: responsibilities, consequences, privileges, bonuses, and special consideration. Responsibilities included setting the means and limits for client surveillance and behavioral requirements including making scheduled phone contacts and face-to-face interviews, daily writing of long reports and adhering to a urine collection schedule. Addicts were also required to notify the project staff of any drug-related crisis. Additional treatment in the form of aversion therapy, behavior rehearsal, and marriage counseling were provided. Research was also carried out in an attempt to develop longer lasting and more efficient narcotic antagonists. These drugs would neutralize the primary reinforcing effects of opiates. More research is needed in regards to secondary reinforcers which contribute to relapse and those which could shape new life styles for the addict. The advantage of these treatment techniques is that they are objective and can be learned by the addicts themselves. However, much more research must be carried out.

159 Kroger, W. S.

THE CONDITIONED REFLEX TREATMENT OF ALCOHOLISM.

Journal of the American Medical Association, 120: 714, 1942.

E - lett. ed. - gen. disc. - alcohol. - abst. - classical - hypn.

(aver.) - hypn. (gen.) - combin. - adjuv. - desc. treatm. - goal

establis.

A-2014.

In a letter to the editor, the writer points out the success of establishing a conditioned reflex under hypnosis in the treatment of alcoholism. A state of heightened suggestibility is induced with deep hypnosis. Using water rather than an alcoholic beverage, the suggestion is made that the patient will be given a drink of whisky and that this drink will immediately induce nausea, vomiting, and pain. Post hypnotic suggestions are given to the effect that at any time he attempts to take a drink, the same symptoms will be experienced. The harmful effects of alcohol are also impressed upon the patient while he is in a deep trance. Hypnosis is not a treatment itself, but is a means of speeding up the treatment. As alcoholism is merely a symptom of an underlying emotional or psycho-

logical disturbance, hypnoanalysis, which is a rapid form of psychoanalysis under hypnosis, should be used to aid in a permanent cure.

- 160 Laboucarie, J.  
 THERAPEUTIQUES NOUVELLES DE L'ALCOOLISME CHRONIQUE.  
 [New therapies for chronic alcoholism.]  
 Toulouse Médical, 51(5): 227-231, 1950.  
 F - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
 desc. treatm. - disc. theo. treatm. - apomor. A-2353.

The author briefly describes three new types of treatment for alcoholism. They are hormone treatment, conditioning therapy and treatment using antabuse. Conditioning therapy consists of the association of alcohol with the reactions of repugnance produced by chemicals. 5.7 to 10 milligrams of apomorphine are injected in the alcoholic and the nausea and the vomiting it produces is paired with the drinking of an alcoholic beverage. Treatment continues until the patient is unable to consume any more beverages. Conditioning is required for each of the different types of alcoholic drinks. Five alcoholics were treated with conditioned-reflex and its effect lasted up to 6 months.

- 161 Lake, C. B.  
 THE CONDITIONED REFLEX TREATMENT OF ALCOHOLISM.  
 Welfare Bulletin (Illinois State Department of Public Welfare), 34:  
 2-3, 1943.  
 E - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
 desc. treatm. - disc. contraind. - goal establis. -  
 emetine A-2042.

A description of the conditioned reflex treatment of alcoholism is provided, taken from the observations of a person who had undergone such a program. An alcoholic, receiving the treatment, was first given a physical examination at which time he learned of the procedures that would be followed. The emetic formula was generally given sub-cutaneously every four to eight hours depending on how well the patient took the reaction. Usually, severe nausea did not develop until the third treatment when a supplement dose of oral emetine was given. Physical conditions which ruled out this type of treatment were serious cardiac conditions, specified pulmonary diseases, active stomach ulcers, epilepsy, and delirium tremens. "Following active treatments, the patient is relaxed for a period of ten to twelve hours, ---, with the help of mild seda-



tives." These active treatments were begun within 36 to 48 hours. During the rest periods, large doses of Thiamine or the B. complex were given. The average length of hospitalization was three days and supportive treatments of vitamins and other medications were continued two to three times a week for eight weeks. Weekly consultation with the physician was also included. Lasting benefits can not be expected unless the patient is deeply motivated, possibly, having experienced the loss of valuable possessions because of alcoholism.

162 Lamontagne, Y.

L'APPROCHE BEHAVIORALE DANS LE TRAITEMENT DE LA  
DEPENDANCE AUX MEDICAMENTS. [Behavioral therapy  
techniques for drug addicts.]

Toxicomanies, 6(3): 261-266,

1973.

F - gen. - gen. disc. - more ss. - drug addict. - abst. - classical  
- chem. - electro. - relax. - syst. desens. - indiv. - desc. treatm.  
- apomor. B-3771.

Behavior therapy is used mainly with alcoholics, but it can also be used with the addicts of other drugs. There are four behavioral techniques: 1) aversion, either with scoline or apomorphine, or with electric shocks, 2) relaxation, 3) relaxation combined with systematic desensitization, and 4) the technique of self-assertion. Ten heroin addicts were treated with 30 mg. of scoline. A paralysis began when the heroin was injected; this process was repeated for five consecutive days. Nine of the patients still did not take drugs 33 days after the treatments. Two mg. of apomorphine was injected and 5 minutes later, 5 mg. of apomorphine in one case, and methadone in another, were injected during nausea and vomiting. 38 sessions were held; the treatments proved to be partially efficient after two years in the second case. The electric shocks were administered by the patient himself whenever he thought of the drug; in this case, demerol. The obsessing thought gradually diminished. In another case, whenever the image of the drug was clearly in the patient's mind, he raised a finger and a shock was given to him. On the average, the treatment was made up of 24 sessions of aversion, with about 15 shocks per session. An amphetamine addict was treated with systematic desensitization. Muscular relaxation was first taught to the patient. The methods of Jacobson and Schultz were preferred to hypnosis. Frightening situations were imagined, until the patient could tolerate them without anxiety. The same was then done with drugs, which gradually became desensitized and no longer attractive to the patient. A discussion follows, mentioning the different causes of anxiety and the reasons for becoming addic-



ted. To treat a patient, it is necessary to diminish his anxiety, to augment his self-esteem, and to work on his social level.

- 163 Lanyon, R. I., Primo, R. V., Terrell, F., and Wener, A.  
AN AVERSION-DESENSITIZATION TREATMENT FOR  
ALCOHOLISM.

Journal of Consulting and Clinical Psychology, 38(3): 394-398, 1972.  
E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
abst. - classical - syst. desens. - vis. - verbal - combin. - indiv. -  
desc. treatm. - c. r., 75 - f. p., 9m. - r. r., 25 B-3136.

A study is presented which tested the efficacy of a two-pronged approach of aversion conditioning and systematic desensitization for the treatment of alcoholics. Twenty-one alcoholic patients were given a mean of 11 hours in one of the following three treatments: 1. interpersonal aversion plus systematic desensitization to drinking-related anxieties, 2. interpersonal aversion plus friendly interaction ("counselling"), and 3. group discussion. The aversion therapy consisted of the viewing of an edited 25 minute film of the alcoholic's previous interview. During the viewing, the therapists point out the problems being discussed and the way the patient's life had deteriorated as a result of his drinking. These sessions attempted to associate thoughts and feelings about drinking with negative interpersonal experiences. The MMPI, MacAndrew Alcoholism scale and the Alcadd Test were administered prior, just after, and 6-9 months after treatment. The alcoholics' anxieties tended to be similar consisting of fears of authority figures, inadequate performance, interpersonal situations, and failure. In the 6- to 9- month follow-up, 5 to 7 aversion-desensitization subjects remained abstinent, while only one of 7 of the aversion-"counselling" subjects and one of 4 of the group discussion subjects did so. The difference between the two aversion groups was significant. The pre-therapy to post-therapy reduction on the Alcadd Test was marginally significantly greater for the aversion-desensitization subjects than the aversion-"counselling" subjects.

- 164 Larkin, E. J.  
THE TREATMENT OF ALCOHOLISM: THEORY, PRACTICE,  
AND EVALUATION.

Toronto: Addiction Research Foundation, Program Report Series  
No. 1, 73 pp., 1974.  
E - gen. - gen. disc. - review - tables - alcohol. - abst. - mod. -  
classical - operant - electro. - pos. reinfor. - desc. treatm. -

disc. theo. addict. - disc. theo. treatm.

B-3159.

In this book, the author presents an outline of the different theories of the etiology of alcoholism. These theories include: the genetrophic theory, genetic studies, psychoanalytic theories, cultural theories, learning theory, and personality theory. Concerning learning theory, researchers have suggested that alcohol is a drive reducer and that its consumption is reinforced by many environmental factors. Along with this, the treatment of alcoholism would be carried out by negatively reinforcing drinking through its association with electric shock or drug-produced nausea and vomiting. A chapter is devoted to the disease concept of alcoholism with a large portion of the material dealing with abstinence as the goal of treatment. Along with chapters on Treatment programs for alcoholics, Voluntary termination of psychotherapy, and Evaluation of treatment programs, is a chapter dealing with behavior modification. Literature is reviewed dealing with this subject using such techniques as aversive conditioning and teaching alcoholics to remain abstinent or to drink normally. The different drinking behaviors of alcoholics and social drinkers are compared. The author states that "utilization of behavior-modification techniques to teach alcoholic patients to drink in a manner similar to 'social drinkers' is a promising as well as an exciting development." Research has shown that "environmental events can influence quantity of alcohol consumed and temporal parameters of alcoholics' drinking behavior."

165 Lauzière, C.

LA THÉRAPIE DU COMPORTEMENT: SON APPLICATION AU TRAITEMENT DU TOXICOMANE. [Behavior therapy: its application in the treatment of the addict.]

Toxicomanies, 1: 167-179,

1968.

F - gen. - gen. disc. - out-pat. - alcoh. - abst. - classical - chem. - electro. - desc. treatm. - disc. theo. treatm. - emetine B-3181.

The author first compares behavior therapy to other therapeutic concepts, such as the traditional psychodynamic (Freud, and others), the psychoanalysis in terms of the behavior therapy of Hull (Dollard and Miller), and psychotherapy as a process of verbal interaction (Kaufer, Krasner). The behaviouristic concept as compared to the traditional concept of alcoholism shows that alcoholism is no longer the reflection of a disorder of the personality, but a misadapted behavior. The treatment is based on present facts, no longer on the past history of the patient. During aversion therapy,

unpleasant stimuli are given to the patient at each misadapted response. He receives the treatment in the morning, when he is sober, for in this way he reacts better. Emetine hydrochloride is administered, and immediately before the nausea, the patient may see, smell, and taste his favourite alcoholic drink. The conditioned stimulus (alcohol) is associated with the unconditioned stimulus (emetine), and after a certain number of repetitions, the unconditioned response (vomitting) presents itself to the conditioned stimulus, that is the sight, smell, or taste of alcohol. This session lasts approximately half an hour and is repeated daily for 5 to 6 days. Reinforcing treatments follow during 4 to 12 weeks. The whole treatment lasts about one year, and during a second year, several boosters may become necessary. Instead of emetine, the electric shock is preferred today as unconditioned stimulus. The reward treatment is discussed with respect to schizophrenia. Another treatment of alcoholics has been done using electric shock. Three opaque, covered glasses are placed in front of the patient, one containing alcohol. He is asked to open one; if it is alcohol, he is given a shock. After twenty sessions, he no longer consumed excessive amounts of alcohol. Reciprocal inhibition or counter-conditioning is briefly explained, where the patient must mentally associate alcohol with nausea.

- 166 Lavery, S.G.  
 AVERSION THERAPIES IN THE TREATMENT OF ALCOHOLISM.  
 Psychosomatic Medicine, 28(4)(Part II): 651-666, 1966.  
 E - gen. - clin. study - pat. - more ss. - alcohol. - abst. -  
 classical - chem. - indiv. - desc. treatm. - disc. generaliz. -  
 disc. theo. treatm. - succinyl. B-3213.

The author treated 2 groups of alcoholics with scoline-induced paralysis as an aversive technique. A third control group was provided as a comparison. Each patient was treated individually and just before the fourth presentation of the alcohol, he was injected with succinylcholine chloride. Muscular paralysis was experienced by each patient and was "allowed to continue for 40 to 60 sec., producing strong experiences of fear, ---." A detailed description is included. The author describes the "re-experiences", the follow-up symptoms and complaints, the early reactions to alcohol, the later reactions, the changes in habit and attitude, and the changes in the consumption of alcohol determined from these patients. Follow-up information for a 3 month and a 1 year period after treatment is provided. A total of 42 alcoholics were treated. It was found that the scoline-treated patients "tended to be more restless and in some instances described themselves as having a great deal more drive."

At 3 months, the treated patients showed a significant reduction in the amounts of alcohol taken when drinking did occur. For the treated groups, there was a significant difference between the number of days abstinent before and after treatment. The author concluded that the "treated patients did better than untreated patients but not significantly better than patients exposed to a control with treatment procedure." A comparison of this approach with other aversion therapies concludes the article.

167 Lazarus, A. A.

TOWARDS THE UNDERSTANDING AND EFFECTIVE TREATMENT OF ALCOHOLISM.

South African Medical Journal, 39: 736-741, 1965.

E - gen. - case disc. - gen. disc. - out-pat. - few ss. - male -  
alcoh. - abst. - classical - electro. - syst. desens. - combin. -  
indiv. - desc. treatm. - disc. probl. pat. - disc. theo. addict. -  
disc. theo. treatm. - goal establis. - emetine - succinyl. B-3214.

The author briefly discusses the disease concept of alcoholism and also the search for a personality predeposed to alcoholism. The author concludes that if the cause of alcoholism was found to be physiological, although there is no conclusive evidence for this, the necessity of training the alcoholic to control his drinking would still be necessary. Secondly, he states that, "few personality theories now in vogue satisfy the usual criteria for acceptable scientific research." The author examines the pharmacological effects of alcohol as it effects the conditionability of the alcoholic. The author proposes that there is a conditioned response between stress and the consumption of alcohol. Increased drinking then leads to consequences which result in greater stress. In addition, "excessive drinking may in fact be reinforced by a variety of stimulus-response connections." Many other social reinforcers also exist, as well. Alcoholism as being compulsive drinking is further discussed. If alcoholism can be considered in this way, then the treatment of the alcoholic's responses alone may be permanently effective. The point is made that experimental evidence that clearly establishes the need for total abstinence has not been provided. With aversion therapy, modern therapists have used emetine hydrochloride, succinylcholine, and electric shock. However, "the conditioning therapies have not as yet yielded an impressive record---" of success. The author feels that crucial factors of conditioning are not being rigidly observed. Such factors as timing and the association of the conditioned and the unconditioned stimuli are discussed. A case history is presented to show "the implications of breaking the vicious circle at several strategic points, not at one alone." This was carried out by improving the patient's



physical well-being, breaking his compulsion for liquor, improving his social environment and eliminating his anxiety-response habits to his environment. The case study gives a lengthy account of the man's environment and related anxieties and of a "wide and all-embracing reconditioning program in the treatment of alcoholism---."

- 168 Leger, J. -M., and Daudet, G.  
L'APPETENCE A L'ALCOOL ET SON TRAITEMENT. [The craving for alcohol and its treatment.]  
Annales Médico-Psychologiques, 2(2): 193-217, 1971.  
F - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
disul. - emetine - metroni. B-3704.

The authors first define what addiction is, its history, and how it has been studied. Different organic factors related to alcoholism, and how alcohol may create an addiction, are discussed. Then follow psychological and sociological factors. The method of Voegtlin is suitable to obtain conditioned reflexes. Emetine provokes nausea, immediately before which the patient drinks his favourite beverage. This treatment lasts one week. After three years, according to Perrin, there are 55% successful cases. In 1948, Jacobsen discovered the treatment with disulfiram. The results are identical to those of apomorphine. However, psychological and social problems are not resolved. A combination of disulfiram and ethanol is administered to the patient, at about 0.25 to 1 gram daily. Under the supervision of a doctor, the disulfiram-ethanol-reaction is provoked with a small quantity of alcohol. It is the fear of this reaction which will prevent the patient from drinking. Another drug used is metrodiazole, also called Flagyl. The hospitalized patient is given 1 to 2 grams daily. After six days, a choice of alcoholic and non-alcoholic beverages is given to him at lunch. The doctor notes the quantity of alcohol consumed, and the comments of the patient. In 80 to 90% of the cases, the patient chose his favourite alcoholic drink, but disliked its taste. After several meals, he reduced the rations of alcohol, and abandoned it completely.

- 169 Lemere, F., and Voegtlin, W. L.  
CONDITIONED REFLEX THERAPY OF ALCOHOLIC ADDICTION:  
SPECIFICITY OF CONDITIONING AGAINST CHRONIC  
ALCOHOLISM.  
California and Western Medicine, 53: 268-269, 1940.  
E - res. - case disc. - few ss. - male - alcoh. - abst. - classical  
- chem. - disc. generaliz. - goal establis. A-2022.



Two short case descriptions of alcoholics treated with conditioned reflex therapy at the Shadel Sanitarium for the treatment of alcoholism, are presented. Both men were given aversion procedures for the alcoholic beverages they were fond of. These were whisky and wine in the first case and whisky and beer in the second. About six months and a year after treatment, respectively, and in states of depression, the men attempted to drink the beverages in which they had been conditioned to dislike. Both, finding little success or satisfaction, switched to those beverages to which they had not been conditioned. The men were readmitted and given conditioned-reflex therapy for the alcoholic beverage, in each case to which they had no aversion. It was found that reinforcement was not necessary for the other alcoholic beverages. One man was shortly committed to a mental hospital due to depressive psychosis. This pointed out that some psychopathic patients may need alcohol to avoid complete breakdown. The treatment program carried out in this institution had a confirmed total abstinence rate for four years or longer of 64.3 percent in 538 patients treated. The two cases presented show that this treatment is valuable but its effects do not generalize to other types of alcoholic beverages.

- 170 Lemere, F., Voegtlin, W. L., Broz, W. R., and O'Hollaren, P.  
 CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM. V. TYPE OF PATIENT SUITABLE FOR THIS TREATMENT.  
 Northwest Medicine, 41: 88-89, 1942.  
 E - gen. - gen. disc. - more ss. - female - male - alcohol - abst.  
 - classical - chem. - disc. contraind. - disc. probl. pat. - goal  
 establis. - c. r., 45 - f. p., 3y. - emetine A-2036.

There existed adequate follow-up information for 830 patients of 1,042 alcoholics given conditioned reflex treatment. Of these 58.7 percent remained abstinent for periods of time from six months to five and one-half years. From this experience, the authors are able to distinguish those types of patients who respond poorly to this type of treatment. They are: the financially indigent, the uncooperative patient, the constitutional psychopath, the inadequate, the psychotic, the deteriorated patient, and women. Classes of other people who are quite difficult to cure are: professional men, especially doctors, business executives, bankers, musicians, and artists. The authors have found very few alcoholics who are truly neurotic. Undoubtedly, many patients would benefit from psychotherapy after treatment. However, those who are cured rarely seek further treatment while those who fail to be cured are not likely to benefit from psychotherapy. The best suited type of patient is one who is essentially normal, stable, and who is willing

and anxious to stop drinking.

- 171 Lemere, F., Voegtlin, W.L., Broz, W.R., O'Hollaren, P., and Tupper, W.E.  
 CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM: VII. TECHNIC.  
 Diseases of the Nervous System, 3: 243-247, 1942.  
 E - res. - clin. study - pat. - more ss. - alcoh. - abst. -  
 classical - chem. - adjuv. - indiv. - desc. treatm. - disc.  
 contraind. - disc. generaliz. - goal establis. - c.r., 45 - f.p.,  
 4y. or more - emetine - pilocar. - ephedrine A-2284.

The authors provide a very detailed description of the method of treating alcoholism with conditioned reflex therapy. The patients, so treated, were admitted to a hospital used exclusively to help alcoholics. Each patient was treated in a room which reduced outside stimuli and emphasized liquor, its smell and taste, and the illness the patient experienced because of the emetic drugs given him orally and hypodermically. Quantities of warm water were provided so that the patient would not suffer from the dry heaves and a basin and towel were provided for the patient to use. The amounts of emetine HCl, pilocarpine HCl, and ephedrine sulphate comprising the aqueous solution were: 3.25 grams, 1.65 grams, and 1.5 grams. The patient was never told that it was this solution which caused his illness. Whisky was always used initially with beer and wine being provided only after the patient had vomited 4 to 5 times. This was because many patients found it difficult to vomit beer once it reached the stomach and because wine was not very nauseating and had little effect on emesis. After the first session the dosage of the injectable emetine was increased, the duration of the treatment was increased to about 35 minutes, and the emetine variety and types of liquor were given at each treatment. There was no place for intoxication during or after treatment. This rarely occurred if the method was carried out properly. The decision of when a patient had completed his initial treatment was important and was based on the degree of aversion which had been produced and from his general attitude. "Benzodrine (was) given before each treatment to facilitate the conditioning process, unless the patient (was) sensitive to this drug." A limited form of psychotherapy was provided and is discussed. The confirmed abstinence rate, found, were 46.1 percent for patient followed 4 years or longer, 56.3 percent for those followed for 2 to 4 years, and 66.7 percent for those followed 6 months to 2 years. Other considerations were discussed.

- 172 Lemere, F., Voegtlin, W. L., Broz, W. R., O'Hollaren, P., and Tupper, W. E.  
 THE CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM. VIII. A REVIEW OF SIX YEARS' EXPERIENCE WITH THIS TREATMENT OF 1,526 PATIENTS.  
 Journal of the American Medical Association, 120: 269-271, 1942.  
 E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical - chem. - disc. theo. addict. - goal establis. - c. r., 75 - f. p., 2y. - emetine A-2015.

The authors contend that alcoholics experience an abnormal reaction to alcohol not felt by normal drinkers. Ingestion of alcohol causes a change in personality and in judgement for those people. In most cases, there is a psychogenic basis for drinking. No treatment has been found to be successful if the patient has no desire to stop drinking. Conditioned reflex treatment is of benefit for those alcoholics who do wish to stop. Treatment consists of establishing a reflex aversion to the sight, smell, taste and thought of alcoholic beverages through the use of emetine. After four to eight sessions, given over a period of a week or ten days, most patients will have a strong aversion to liquor. Reinforcement sessions are given throughout the first year at intervals of one to three months. There was no attempt to select patients for treatment. The results would have been better if alcoholics diagnosed as constitutional psychopaths, inadequate, or highly nervous could have been excluded. Accurate follow-up information for 1,194 of 1,526 patients treated was obtained. Seventy-four percent of 644 patients treated within the last two years were still abstinent, 52.5 percent of 291 patients treated two to four years, previously were still abstinent, and 51.5 percent of 259 patients treated four or more years previously, were still abstinent. The advantages of this treatment are its short duration, its wide applicability, and its ready acceptance by patients. In response to a discussion following this article, the senior author states that most of the patients treated were responsible individuals who made normal adjustment when they were not drinking. Support for reinforcement sessions was restated. Of all the patients successfully treated, five went into state hospitals several months or a few years after treatment, none went into morphine addiction, 3 went into barbiturate addiction, and went into criminal activities.

- 173 Lemere, F.  
 PSYCHOLOGICAL FACTORS IN THE CONDITIONED-REFLEX TREATMENT OF ALCOHOLISM.  
 Quarterly Journal of Studies on Alcohol, 8: 261-264, 1947-48.

E - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
disc. theo. treatm. A-2236.

The author discusses the psychological factors associated with the conditioned-reflex treatment of alcoholism. Alcoholics, who had no desire to stop drinking, did not have to remain for treatment. Therefore, those patients who received treatment were usually quite anxious to stop drinking. Patients under the age of 30 years, who had probably not suffered enough through alcoholism, proved poor results to conditioned-reflex treatment. Possibly, these patients did not deeply desire to stop drinking. The patients also had to be stable enough to be worth the cost of the treatment. The type of hospital was also important, psychologically, because it was not a mental institution but a hospital which solely treated alcoholism. There were less feelings of shame and greater feelings of sanctuary and fraternity with the other alcoholics. Discussions among themselves about common problems was found to be the best type of group psychotherapy. Relapsed patients warned others of pitfalls and patients, returning for reinforcement sessions showed other patients that abstinence was possible. Psychotherapy was limited to dealing with more obvious and pressing personal problems of the patients. In this regard, the author found it surprising how few of the patients showed symptoms of neurosis when they stopped drinking. Several aspects of the alcoholics' situations had to be explained to them and understood by them. The most important was that their abstinence would have to be complete and permanent. The patients had to be shown other methods of escape from the stresses of living. The continued association with the patient through the follow-up procedures was found to be very beneficial. Not only did it get the patients to return for their reinforcement sessions, but it showed them someone was taking an interest in them and was there to help iron out personal problems which might arise.

- 174 Lemere, F., and O'Hollaren, P.

TREATMENT OF CHRONIC ALCOHOLISM BY INTRAVENOUS  
BARBITURATES.

Northwest Medicine, 48(7): 482-484,

1949.

E - res. - clin. study - pat. - alcohol. - abst. - classical - chem. -  
adjuv. - desc. side-effects - desc. treatm. - disc. theo. treatm. -  
goal establis. - c.r., 55 A-2278.

The authors discuss the use of sodium pentothal treatment as an adjunct to conditioned-reflex therapy in alcoholism. With only the latter therapy, 48 percent of 2323 patients, treated over a 10 year period, remained abstinent. It was found that primary alcoholics were benefited the most by this treatment and that more help was



needed for secondary alcoholics who often suffered from underlying neuroses. Pentothal narcosynthesis was begun in 1941 and intravenous barbiturate treatment developed to the point of having been a major part of the treatment of secondary alcoholics. The 6 indications for the use of pentothal therapy are outlined and describe the most difficult patients to treat. During each session, 2 grams of pentothal was added to 200 cc. of sterile water and given as intravenous drip. Initially, prolonged interviews were carried out at a level deep enough to have produced subsequent amnesia for the interview. Later, the interviews were much shorter and were terminated by strong suggestions toward correction of faulty habits of thinking and against alcohol. A 4 to 6 hour sleep following each pentothal treatment was desirable. A few patients could not tolerate the drugs and became wild and unmanageable, or ill. The 2 therapies were given on alternate days. Of 479 patients treated with pentothal alone or in combination with conditioned reflex therapy, during a 3 year period, 57 percent remained abstinent. Of 94 patients treated solely with sodium pentothal 45 percent remained abstinent. A small study was carried out which indicated that "pentothal (had) a beneficial pharmacologic effect over and above its psychologic action in relieving the nervous tension of alcoholic patients. Pentothal (seemed) to be even more helpful in the alcoholic than in nonalcoholic neurosis."

- 175 Lemere, F., and Voegtlin, W. L.  
AN EVALUATION OF THE AVERSION TREATMENT OF  
ALCOHOLISM.

Quarterly Journal of Studies on Alcohol, 11:199-204, 1950.  
E - res. - clin. study - pat. - more ss. - alcohol. - abst. -  
classical - chem. - adjuv. - desc. treatm. - goal establis. - c. r.,  
55 - f. p., ly. - d. r., 3 - emetine A-1975.

During the past 14 years, 4,468 alcoholics were treated by the conditioned-reflex method at the Shandel Sanitarium in Seattle. The advantages of having an institution devoted exclusively to the treatment of alcoholism are presented. Elimination of the stigma associated with psychiatric units has led to better cooperation from the patients. The more appropriate attitudes of the staff and atmosphere of the institution in dealing with alcoholics are beneficial. The patients who were treated had volunteered, were able to pay for their treatment, and were cooperative. The treatment involved producing nausea and vomiting to alcoholic drinks by administering emetine. Each treatment session lasted between 30 and 60 minutes and usually four to six sessions were given on alternate days. Reinforcement sessions were provided if a patient relapsed or at the end of 6 months and 1 year. The major precaution was that a



patient did not absorb enough alcohol during treatment to become slightly intoxicated. If this did arise, the patient's stomach was emptied and the session stopped. Group therapy, reassurance, praise, and encouragement from the staff were also provided. Of the 4,096 patients for whom there was accurate follow-up data, 60 percent remained abstinent for at least 1 year, 51 percent for at least 2 years, 38 percent for 5 years, and 23 percent for at least 10 years. Of 878 patients who relapsed and were treated again, 39 percent have remained abstinent. Disappointment was expressed over the lack of objective results showing the effectiveness of other treatments of alcoholism with which to compare the present findings.

- 176 Lemere, F., and O'Hollaren, R.  
 THIOPENTAL U.S.P. (PENTOTHAL) TREATMENT OF ALCOHOL-  
 Archives of Neurology and Psychiatry, 63: 579-585, 1950.  
 E - res. - clin. study - pat. - more ss. - alcoh. - abst. -  
 classical - chem. - adjuv. - desc. treatm. - goal establis. -  
 c.r., 55 - emetine A-2206.

At the Shadel Sanitarium, in Seattle the main treatment given alcoholics is the conditioned reflex method. Of 4,096 patients treated over a 13 year period, 51 percent had remained abstinent after treatment. Because the authors felt there was a need to treat the often present underlying neurosis in alcoholic patients, a short cut method of psychotherapy, using thiopental sodium narcosynthesis, was given to 30 percent of the patients receiving conditioned reflex therapy. Two grams of thiopental sodium was added to 200 c.c. of sterile water and was given intravenously by the drip method. The first treatments consisted of interviews in which questioning was carried out with the patient at a level of narcosis deep enough to produce subsequent amnesia for the interview. Later sessions were concluded with strong suggestions against the use of alcohol. After each session, a sleep of at least an hour and preferably 4 to 6 hours was desirable. The combined treatment of thiopental and conditioning took from 10 to 14 days and consisted of 4 to 6 conditioning treatments, given on alternate days with from 5 to 7 thiopental sessions. Combined treatments were given to patients who drank to relieve their nervous or emotional tension, who had a history of any psychiatric disorders, who were younger, or who had relapsed after previous conditioning treatments. The complications involved in using thiopental are discussed in this paper. For 479 patients, of which an accurate follow-up history existed, 219 were given combined treatment and had an abstinence rate of 68 percent. Abstinence rates for 23 patients given thiopental alone

on their first admission, for 166 patients retreated with the combined treatment, for 71 percent retreated with thiopental alone, were 44 percent, 49 percent, and 45 percent. These cases represented the most difficult patients to cure. A comparison was made between a group of alcoholics who received extensive psychotherapy with thiopental and a group who received brief psychotherapy with thiopental, 58 percent of the former remained abstinent compared to 56 percent in the latter group. This indicated that suggestions given under narcosis were of some definite help.

177 Lemieux, L.-H.

L'ALCOOLISME CHRONIQUE ET SES TRAITEMENTS. [Chronic alcoholism and its treatments.]

Laval Médical, 14: 1304-1318,

1949.

F - gen. - gen. disc. - alcohol. - abst. - classical - chem. - desc. treatm. - emetine

A-2247.

On October 21, 1948, the Danish Medical Association learned that out of 50 alcoholics treated with Antabuse, 35 were cured. Since then, this drug has been closely studied and used for many cases. The author gives a history of the treatments of alcoholism, from moral treatments, hypnotism, substitution, to aversion treatments. Several of the latter are listed; they are not relevant to behavior modification. The most recent is the method of conditioned reflexes, found by Voegtlin in 1935. A conditioned reflex of aversion to the sight, taste, or smell of different alcoholic drinks is established by an unconditioned stimulus (nausea, vomiting) which is caused by an injection of apomorphine or emetine. This stimulus follows the conditioned stimulus (absorption of alcohol). The patient must taste many different types of alcohol in order to become abstinent from all of them. Six to eight sessions are sufficient to obtain the reflex, which must sometimes be reinforced. 85.8% of the patients treated in 1940 were still abstinent in 1942. After 3 years, 62.1% were abstinent, after 4 years, 58%, after 5 years, 52.4%, and after 6 years, 47.2%. From the patients treated in 1935, 40.2% were abstinent in 1942. Several chemical treatments are listed, among them Antabuse, whose discovery and effects on a person are described. The treatments must take place in a hospital, and the patient must be sober before undergoing treatment. After a medical and psychiatric inquiry, the method of treatment is explained to the patient who must be willing to undergo it. The first day, 1.5 gr. of Antabuse, are administered in 3 doses. During the 3 following days, 1 gr. is given in 2 doses. The following morning, when the patient has a total of 5 gr. of Antabuse, 1 1/2 ounces of cognac are offered to him. If the reactions are too light, greater quantities of alcohol are used. A daily dose of 0.50 gr. of

Antabuse must then be taken by the patient, who presents himself regularly for examination after dismissal from hospital. The reactions of different people to Antabuse are described, emphasizing the necessity to find the exact dose suitable for each person.

178 Lereboullet, J.

LA DESINTOXICATION ALCOOLIQUE. [Alcoholic detoxication.]  
 Revue du Praticien, 3: 2421-2426, 1953.  
 F - res. - clin. study - pat. - more ss. - alcohol. - abst. - classical  
 - chem. - indiv. - desc. treatm. - goal establis. - c.r., 75 -  
 f.p., 3m. - apomor. - disul. A-2092.

The author combined three methods of treating alcoholics. During detoxification, the patients received intravenous injections of alcohol in a solution of glucose and hepatic extract. At the beginning, the dose was 50 cm.<sup>3</sup> and decreased by 5 cm.<sup>3</sup> every day for about 10 days. The second part of treatment was aimed at the creation of a conditioned reflex of disgust to alcohol using apomorphine. Five times a day, each patient was injected subcutaneously with 1 cg. of apomorphine and given a quarter of a liter of wine. This treatment lasted about 3 days during which the patient did not eat. Then, disulfiram was used to provoke a very strong reaction to the consumption of alcohol in order to strengthen the conditioned reflex. A .50 gr. pill was given to each patient once a day and then doubled. A small reaction of aversion was produced using small quantities of wine so that the initial reflex produced by the apomorphine was well reinforced. Patients were kept in hospital for one month and asked to continue to take disulfiram each day. Initially, 92 percent of those treated did not resume drinking. After a 4 month period, 70 percent of the patients had not started to drink. The author points out that most of the relapses occurred during these first four months. The author also found that it was necessary that those treated were volunteers, that the underlying psychological aspects of the patients must be well studied, and that the patients must be in good health generally.

179 Lereboullet, J., Vidart, L., and Gasteau, E.

NOTRE EXPERIENCE DE LA DESINTOXICATION ALCOOLIQUE.  
 SES METHODES. SES RESULTATS. [Our experience in alcoholic  
 detoxication. The methods. The results.]  
 Bulletin de l'Academie Nationale de Médecine, 137: 352-359, 1953.  
 F - res. - clin. study - pat. - more ss. - alcohol. - abst. -  
 classical - chem. - desc. treatm. - goal establish. - c.r., 65 -

f. p., 9m. - apomor. - disul.

A-2082.

Forty-two patients were treated for alcoholism by the development of a conditioned reflex to alcohol. Initially, the patients were injected with Curethyl in diminishing doses for 12 days. With the use of apomorphine, a conditioned reflex was established. Finally disulfiram was given to the patients daily and the patients underwent alcohol reaction tests each morning and evening. Disulfiram was continued after the patients left the hospital. Ninety percent of the patients observed for less than 4 months showed good results. Seventy percent showed good results 4 to 8 months after treatment.

- 180 Lereboullet, J., Vidart, L., and Gasteau, E.  
 NOTRE EXPERIENCE DE LA DESINTOXICATION ALCOOLIQUE.  
 SES METHODES. SES RESULTATS. [Our experience in alcoholic  
 detoxication. Methods. Results.]  
 Journal de Médecine de Lyon, 35: 399-404, 1954.  
 F - gen. - case disc. - clin. study - tables - pat. - more ss. -  
 alcohol. - abst. - classical - chem. - indiv. - desc. treatm. - goal  
 establis. - c. r., 65 - f. p., 3m. - apomor. - disul. A-2324.

Hospitalization is indispensable for the treatments. There are several methods of detoxification. The patient must be sober, and treated with apomorphine, 1 centigram of which is injected 5 times daily or more. Immediately afterwards 1/4 litre of wine is given to the patient. This continues for 3 days, during which the patient is carefully observed. Antabuse creates not only a conditioned reflex, but an alcohol-antabuse shock, by which the patient can no longer tolerate alcohol. The patient has to be warned of this before treatments. During a few days one tablet of 0.50 g. is given to him twice daily. Then a reaction is provoked with 1/2 litre of wine, in the mornings and evenings. The exact dose of antabuse must be established with great precision. Vitamin treatments and psychotherapy are mentioned. After the cure, the patient is still closely observed during at least the first year. He is examined every month. A continuation of antabuse, at 0.50 g. daily is essential. This dose may be diminished if the cure seems efficient. The patients are classed into different groups, shown in a table: success, good results, doubtful results, and failure. After 4 months, the percentage of favourable results remains stable. During the first 4 months, relapses are most frequent. 70% are very good results. The results of three different cases are discussed. One man was treated with antabuse and psychotherapy, and has succeeded. He now takes 0.50 g. of antabuse daily. Another left the hospital after three weeks' treatments with curethyl, apomorphine, and antabuse, also totally abstinent. He continues taking 0.25 g. of



antabuse daily. The third man, also treated with apomorphine and antabuse, is now in excellent health and no longer attracted by alcohol. He takes a daily dose of 0.50 g. of antabuse.

- 181 Lesser, E.  
 BEHAVIOR THERAPY WITH A NARCOTICS USER: A CASE REPORT.  
 Behaviour Research and Therapy, 5: 251-252, 1967.  
 E - gen. - gen. disc. - out-pat. - few ss. - male - drug addict. - abst. - classical - electro. - relax. - combin. - indiv. - desc. treatm. - disc. probl. pat. - goal establis. - f.p., 9m. B-3157.

A short case study is presented of a 21 year old male who underwent 33 1-hour therapy sessions over a period of 4 1/2 months to keep himself from becoming addicted to morphine, a second time. The patient explained the great amount of anxiety which he always experienced and training in relaxation was recommended. Training in self-assertion was also started and the patient was asked to keep from associating with his drug-using friends. While his attitude and self-confidence improved, he still found it difficult to refuse the offer of the drug. Electrical aversion therapy was begun. Five key steps in the administration of narcotics were identified. He was asked to think of them one at a time and to handle the hypodermic needle and the rubber nipple which he used. As he did, he was given a painful shock. The shock terminated when he ceased visualizing the key step, threw down the apparatus, and said the word "stop". Twenty-four aversive conditioning sessions were held. The 5 key steps were run through three times in each session and the number of shocks ranged from 15, in the first sessions, to only 5, in the last session. During this combined treatment, the patient took morphine but found that it did not cause the "good feeling" he usually experienced. Follow-up, as long as 10 months after the end of treatment, showed that he was still off hard drugs. Much of his anxiety had been alleviated as well.

- 182 Liberman, R.  
 AVERSIVE CONDITIONING OF DRUG ADDICTS: A PILOT STUDY.  
 Behaviour Research and Therapy, 6: 229-231, 1968.  
 E - gen. - clin. study - pat. - few ss. - female - male - drug addict. - abst. - classical - chem. - adjuv. - indiv. - desc. treatm. - goal establis. - apomor. B-3158.

Two narcotic addicts were given chemical aversive conditioning therapy in an attempt to cure them of taking heroin. Both the male



and female patients had emotional problems involving anxiety and depression and used narcotics to alleviate their distress. Approximately, 2 mg. of apomorphine was subcutaneously injected into each patient and each was instructed to give themselves a "fix" of 5 mg. of morphine intravenously. The dose of morphine was enough to produce a "rush" sensation but was insufficient to elicit euphoria or sedation. The timing was such that severe nausea and other aversive effects were experienced within one minute of the patient "fixing" with morphine. The unpleasant effects lasted about 30 to 45 minutes. After the 38 treatment sessions, further "booster" sessions were held at varying intervals, in part determined by the reappearance of craving. Short paragraphs are provided on the two patients' situations and emotional problems. By the third to sixth sessions, both patients had developed a conditioned emotional response to the drug-taking situation. As the sessions progressed, the man lost his fantasizing and craving for drugs. The woman was also able to control her craving for drugs. Intermittent conditioning and choice situations were introduced and were continued at a rate of 1 to 2 per week. The male relapsed after suspicion and distrust of the experimental situation were aroused. The woman has gone a year after treatment and has not become re-addicted. Aversive conditioning for drug addiction has some promise.

- 183 Liebson, I. A., Cohen, M., Faillace, L. A., and Ward, R. F.  
 THE TOKEN ECONOMY AS A RESEARCH METHOD IN  
 ALCOHOLISM. 1971.  
 Psychiatric Quarterly, 45: 574-581,  
 E - res. - clin. study - tables - pat. - few ss. - male - alcohol. -  
 mod. - classical - pos. reinfor. B-3217.

The authors feel that the research method in alcoholism of token economy may be a useful and practical means of evaluating the drinking behavior of alcoholics. Tokens, in such a setting, function as a generalized reinforcer since they may be exchanged for a great variety of other reinforcers the subjects would like to obtain. Nine white men, whose ages ranged from 29 to 44 years were studied. A description of the staff and the setting are also provided. Tables are given in which lists of contingencies in the token economy for earning and for spending are shown. The initial four subjects were allowed to purchase quantities of alcohol. However, the upper limit of 8 ounces per 8 hour period had to be reduced due to the loss of control by one of the patients at the higher limit. Variables which caused excessive drinking or less excessive drinking could not be determined since the subjects almost always indulged to this moderate limit. Using two of the subjects, contingen-

cies were applied to drinking behavior by having the subjects work for alcohol on a fixed ratio schedule. The work was stuffing envelopes and "fairly stable consumption was attained from both subjects, inversely proportional to the work requirement." It was then found that monetary reinforcement could induce moderation and even abstinence. The subjects were offered 25 percent of what they had in their accounts to abstain for one day. The amount for subsequent days was a function of whether they drank or abstained on the previous day in that the remuneration would be higher on the subsequent day if the subject had not abstained on the previous day. Abstinence was achieved in all the patients, although each man had his price to abstain. If meaningful consumption could be controlled in alcoholics through their use.

## 184 Litmanovitch, A.A.

OSOBNOSTI TECHENIYA I LECHENIYA KHONICHESKOGO

ALKOGOLIZMA U ZHENSCHIN. [Peculiarities in the course and treatment of chronic alcoholism in women.]

Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 60:

1515-1517,

1960.

R - gen. - gen. disc. - female - alcohol. - abst. - classical - chem.

- adjuv. - desc. treatm. - disc. contraind. - apomor. A-2254.

In the past few years, there has been a lot of scientific literature dealing with chronic alcoholism, alcoholic psychosis and their treatment. Most women turn to alcohol due to the influence of their relatives, friends, and, especially, their husbands. Conditioned-reflex treatment causes the alcoholic to break her drinking habit so that other therapeutic techniques can be applied. The conditioned-reflex does decrease over time. When the vomiting induced by apomorphine is large, the stomach is emptied but the state of the patient is better. The digestive system is aroused and along with this is a stronger desire to remain abstinent. The author administered small doses of apomorphine which caused the formation of a conditioned-reflex even though no violent vegetative reaction was experienced. The dose was kept low because the women did not wish to feel unpleasant for too long. It was found that female alcoholics often suffered from liver damage, or jaundice in which case apomorphine could not be used.

- 185 Livshitz, L. S.  
 IZSLEDOVANIYE VYSSHEI NERVNOI DEYATEL'NOSTI  
 CHELOVEKA V GIPNOZE PRI KHRONICHESKOM ALKOGOLIZME.  
 [Study of higher nervous activity in man under hypnosis and its  
 significance in developing treatment of alcoholism.]  
 Zhurnal Vysshei Nervnoi Peiatel'nosti imeni I. P. Pavlova, 9:  
 837-844, 1959.  
 R - gen. - gen. disc. - out-pat. - more ss. - alcoh. - abst. -  
 classical - hypn. (aver.) - hypn. (gen.) - desc. treatm. A-2065.

Forty-three patients, some of whom were alcoholics, were studied to determine their ability to be hypnotized. Those patients who were hypnotized on the first try or who were not hypnotized with the aid of barbiturates, were less influenced by it. Thus, it was felt that increased hypnotizability was linked with weak inner inhibitions. In a separate test, it was found the conditioned reflexes developed before hypnosis were retained under hypnosis. Alcoholism is the creation of positive conditioned connections brought upon from regular drinking. For this reason, a negative reaction must be established in the treatment of alcoholism. This negative reaction must be reinforced to remain effective. It was found that with negative reaction, developed under hypnosis, that reinforcement sessions had to be provided at 3-, 4- or 5 month intervals for the first year. After that the reactions become stable.

- 186 Lolli, G.  
 ALCOHOLISM, 1941-1951; A SURVEY OF ACTIVITIES IN RE-  
 SEARCH, EDUCATION AND THERAPY. V. THE TREATMENT OF  
 ALCOHOL ADDICTION.  
 Quarterly Journal of Studies on Alcohol, 13: 461-471, 1952.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 treatm. - disc. theo. treatm. - apomor. - emetine A-2235.

The treatment of alcoholism is discussed under the following headings: The nature of addiction to alcohol, Etiology, and Treatment. The treatment portion of the paper is broken down into sections comprising of: Importance of diagnosis, Acute alcohol intoxication, Hangover, Temporary sobriety, Medical, Conditioned-Reflex Therapy, Disulfiram, Psychological approaches, Role of the hospital, and Religious approaches. In its section, the author discusses the general basis for conditioned-reflex therapy. Apomorphine or emetine produces nausea and vomiting, and as alcohol is given to the patient at the time of this ill feeling, this discomfort becomes associated with drinking alcohol and an aversion develops. Treatment is required from time to time to keep the aversion affective. Psychological approaches should be used in combination with this

therapy to minimize the fading of the aversion due to internal or external pressures upon the patient.

- 187 López-Ibor Alino, J. M., and López-Ibor Alino, J. J.  
 NUEVA TECNICA FARMACOLOGICA DE DESCONDICIONAMIENTO  
 EN EL ALCOHOLISMO CRONICO. [New pharmacological technics  
 of disconditioning in chronic alcoholism.]  
 Actas Luso-Españolas de Neurologia, Psiquiatria y Ciencias Afines,  
 1: 203-210, 1973.  
 Sp - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
 indiv. - desc. treatm. - apomor. - cit. cal. carb. - disul. B-3788.

Three fundamental drugs have been used in behavior therapy: apomorphine, disulfiram and metrodiazole. The author notes that apomorphine was used less and less because of the dangers involved. The possibility of complications with this drug was much greater than with the others. During treatment, the patient should be in the hospital as little as possible, and then continue the treatment outside, in his usual environment, in order to obtain absolute abstinence. While an intense reaction was obtained by combining disulfiram and alcohol, the results were less consistent with metrodiazole. The patient was hospitalized, and disulfiram was administered to him. A few days later, he was told that conditioned reflexes were the only solution to his problem. He was given alcohol, and at the same time a placebo tablet. Gradually, the intensity was augmented, and when it was great enough, the quantities of alcohol were diminished day by day. The patient thought that the placebo was the cause of the nausea, but when he no longer took it, the symptoms persisted. He then firmly believed that a conditioned reflex had been created. The treatment was continued one week or more. The disadvantage of disulfiram and metrodiazole were that they came in tablets, were not tasteless, and were difficult to dissolve in liquid. Often the patient refused to take them. Pure cyanamide, tasteless and odorless, had been found to replace them. It was used mainly in Canada, the United States, and Japan. The reactions were less intense, but sufficient for the treatments. A reaction of nausea, dizziness, or tachycardia occurred in approximately 10 minutes, depending on the dose, which was between 10 and 100 mg. daily. The same method as above was applied, and after leaving the hospital, the patient was still given drops of cyanamide by his family, without him realizing it. Graphs show the reactions of the patients to disulfiram and cyanamide, indicating the pulse and the blood pressure respectively.



- 188 Lovibond, S. H., and Caddy, G. R.  
 DISCRIMINATED AVERSIVE CONTROL IN THE MODERATION OF  
 ALCOHOLIC'S DRINKING BEHAVIOR.  
 Behavior Therapy, 1: 437-444, 1970.  
 E - res. - clin. study - tables - out-pat. - more ss. - female -  
 male - alcohol. - mod. - classical - electro. - desc. treatm. - goal  
 establis. - c.r., 75 B-3128.

A clinical study was carried out in which 31 alcoholics were first given one session to learn to discriminate their own blood alcohol concentration (BAC) and then received electrical aversion therapy for some 6 to 12 sessions. During the first session, a breathalyzer reading was taken every 15 to 20 minutes and the alcoholic was asked to estimate his BAC. This session lasted up to 2 hours during which time the alcoholic's BAC rose to about 0.08% and then declined. The first 3 conditioning sessions were held 5 to 7 days apart. In these sessions, the alcoholic was asked to estimate his BAC and then told what it was until he reached the 0.065% level. Above this, the alcoholic was shocked in such a way as to maximize uncertainty. In this regard, a 80 percent reinforcement schedule was used, and the shock intensity, duration, and timing were altered. Treatment was conducted on an out-patient basis. A control group of 13 alcoholics was included. These subjects received the same treatment except that they were not given a shock during the 2 minute period prior to drinking or the 30 minute period after drinking. These alcoholics were able to estimate their BACs with a high degree of accuracy. After at least 16 weeks, 21 of 28 alcoholics in the treatment group were considered successful in drinking in a controlled fashion. 3 others drank less than they had before treatment. On the other hand, the controls rapidly returned to their pre-treatment drinking levels. This difference proved to be significant only 3 weeks after treatment. Also, a significantly greater number of subjects dropped out of the control group than the experimental group. The authors pointed out that "the more common outcome (was) simply a loss of desire to continue drinking beyond three or four glasses (in the treatment group after treatment), with little evidence of a conditioned aversion reaction."

- 189 Lubetkin, B. S., and Fishman, S. T.  
 ELECTRICAL AVERSION THERAPY WITH A CHRONIC HEROIN  
 USER.  
 Journal of Behavior Therapy and Experimental Psychiatry, 5(2):  
 193-195, 1974.  
 E - res. - clin. study - few ss. - male - drug addict. - abst. -  
 classical - electro. - adjuv. - indiv. - desc. treatm. - goal



establis.

B-3757.

The authors treated a 23 year old chronic heroin user with electrical aversion therapy. The fellow had used heroin for a period of 3 years injecting himself on an average of 2 to 3 times a week. While he had retained some control by not taking heroin on more than 2 successive days, he was having marriage and academic problems. The subject was given electrical aversion treatment during twenty 20-minute sessions over approximately 2 1/2 months. "The client was asked to imagine and verbally describe the behavior sequence leading up to and including heroin intake." This sequence was divided into phases labeled intention, precipitation, and action. During the earlier session, the subject was given 5 shocks for each of the 7 phases which he imagined and described. During the last 5 sessions, he received partial reinforcement. The subject continued his description, following a shock until the shock became intolerable. He then was "to alter his fantasy and describe a socially adaptive and drug-free situation." When this occurred the shock terminated. "There was no evidence of 'symptom substitution' in any form." However, it was only after aversion therapy that there was a marked decrease in drug usage and improvement in functioning. An 8 month follow-up indicated that he had remained drug-free.

190 Lunde, G. E., and Vogler, R. E.  
GENERALIZATION OF RESULTS IN STUDIES OF AVERSION  
CONDITIONING WITH ALCOHOLICS.  
Behaviour Research and Therapy, 8: 313-314, 1970.  
E - gen. - gen. disc. - alcoh. - abst. - classical - chem. -  
electro. - disc. theo. treatm. B-3716.

Research into aversion conditioning therapy for alcoholism has been carried out for years and a resurgence of interest seems to have taken place, in this regard. In evaluating the results of many studies, there are the normal difficulties encountered due to the different patient populations used and the different methods which are used. But, besides these 2 aspects which lead to difficulties, researchers in this field, have failed to provide adequate description of their subject sample, have failed to provide enough control groups, and have used insufficient follow-up techniques. These factors have made it even more difficult to evaluate the different studies. It has been reported that characteristics other than age, sex and chronicity were important in the success of treating alcoholism. These other characteristics include "drinking environment, drinking associates, types of liquor consumed, drinking cycle, average time of abstinence outside the hospital and precip-

itating circumstances for drinking. " The authors feel that "the failure to use adequate control groups (was) another fairly common shortcoming of studies on aversion conditioning with alcoholics. " And lastly, that in the research carried out that there has been the failure to adequately assess the changes in drinking behavior which occurred following treatment. Due to the degree of difficulty in evaluating the work done in this field. A clinician could undertake one of the "proven" techniques and find that it is inappropriate in his situation. This could lead to discourage and dissuade him from trying other innovative techniques.

- 191 MacCulloch, M. J. , Feldman, M. P. , Orford, J. F. , and MacCulloch, M. L.  
 ANTICIPATORY AVOIDANCE LEARNING IN THE TREATMENT OF ALCOHOLISM: A RECORD OF THERAPEUTIC FAILURE.  
 Behaviour Research and Therapy, 4: 187-196, 1966.  
 E - res. - clin. study - out-pat. - pat. - few ss. - female - male -  
 alcohol. - abst. - classical - electro. - desc. treatm. - goal n.  
 establis. B-3160.

Four patients underwent anticipatory avoidance learning for the treatment of alcoholism. The provision of an alternate drinking choice for the patients was also included. This method using electrical shock had been used to treat homosexual patients and the results obtained here were compared to those obtained with homosexuals. The hierarchy of stimulus situations consist of a range of photographs of beer and spirits, the sight of both a stoppered and an open bottle of alcohol, and alcohol in a glass were presented in order of increasing compulsion to drink. A tape recording of respected invitations to drink was also used. Slides of orange squash and an actual glass of orange squash were used as relief stimuli. For three of the four patients, records of avoidance responses were made for two of the four, detailed records of response latencies were made, and for two patients, pulse rates were taken during the training period. The number of sessions of treatment varied from 10 to 46. A clinical description of each patient is given along with the results obtained for each patient. The one male and 3 female patients displayed very variable response latencies with a high proportion of trials in which they failed to avoid at all. These findings were in direct contrast with those of the homosexual patients. Neither were the pulse rates consistent with those found in the successful treatment of homosexuals. All four alcoholic patients either definitely relapsed or were presumed to have relapsed. A short discussion of the characteristics of alcoholics which might make them unsuitable for this type of treatment is presented.

- 192 Madill, M.F., Campbell, D., Laverty, S.G., Sanderson, R.E. and Vandewater, S.L.  
 AVERSION TREATMENT OF ALCOHOLICS BY SUCCINYLCHOLINE-INDUCED APNEIC PARALYSIS: AN ANALYSIS OF EARLY CHANGES IN DRINKING BEHAVIOR.  
 Quarterly Journal of Studies on Alcohol, 27: 483-509, 1966.  
 E - res. - case. disc. - clin. study - tables - pat. - more ss. - female - male - alcohol. - abst. - classical - chem. - indiv. - desc. treatm. - disc. theo. treatm. - succinyl. B-3129.

A controlled clinical study was carried out in which 15 alcoholics experienced succinylcholine-induced apneic paralysis in the presence of alcohol, 15 alcoholics experienced this paralysis in the same setting but not in the presence of alcohol and a further 15 alcoholics were given alcohol in this setting without experiencing paralysis. A table provides the descriptive characteristics of the patients in each of the 3 groups. The method used with the 3 groups is described in detail. Measures of the unconditioned stimulus and the unconditioned response included: the length of apnea, rating of degree of fear, and rating of speed of onset of fear. It became apparent that "the critical factor in the traumatic event (was) not the duration of the apnea but its onset." Measures related to strength of conditioning such as rate of spontaneous fluctuation of GSR, rate of breathing, fluctuation in heart rate, symptoms after conditioning, and behavior toward drink were recorded or obtained. From this date it appeared as if a state of anxiety had been created in regards to alcohol, for those patients given succinylcholine. In the 3 months following treatment, the proportion of subjects who were abstinent was greatest in the group who experienced paralysis without the presence of alcohol. However, members of both apnea groups stated that they experienced aversive sensations when they later consumed alcohol. The succinylcholine-treated alcoholics indicated that, after treatment, they changed their place of drinking. Even though some of these alcoholics drank again to the state of intoxication, they felt that now they had more control over their drinking. The authors found no significant differences between the 3 groups in improvement at work and at home. Several case descriptions are provided.

- 193 Maletzky, B. M.  
 ASSISTED COVERT SENSITIZATION FOR DRUG ABUSE.  
 International Journal of the Addictions, 9(3): 411-429, 1974.  
 E - res. - clin. study - more ss. - female - male - alcohol. - drug addict. - abst. - classical - relax. - vis. - verbal - adjuv. - indiv. - desc. treatm. - disc. theo. treatm. B-3715.

The author discusses covert sensitization, systematic desensitization, and assisted covert sensitization for the treatment of drug abuse. The factor which was added to covert sensitization was the presence of a noxious odour, valeric acid, at the appropriate points during the presentation of a scene. This article presents the first experiment carried out treating people, who abused a variety of drugs, with assisted covert sensitization. The different drugs which were abused were: paint, heroin, alcohol, valium, cigarettes, marijuana, and hallucinogens. The twenty subjects, treated at a military base, were randomly split into a treatment and a control group. Both groups received individual and group counseling but while the control group received extra individual counseling, the treatment group received assisted covert sensitization. Following training in relaxation, the treatment subjects were asked to list their usual drug taking behaviours and to list their most feared and disgusting scenes. Then, the scenes of their drug taking behavior were combined with their scenes of aversion. It was during the aversive scenes that valeric acid was introduced. Treating each subject individually, two scenes were presented each session for an average of 12 sessions. These 30 minute sessions were conducted three times weekly followed by booster sessions at three and six month intervals. All the scenes were taped and vials of valeric acid were provided so that the subjects could practice between sessions. Six months after treatment, it was found that the assisted covert sensitization group had "a significantly lower incidence of drug abuse, a significantly lower report of suspicions and incidents by observers, and a better record on tests of drug and alcohol levels in blood and urine." "The results (indicated) that assisted covert sensitization (could) be beneficial when added to a pre-existing drug abuse program."

194 Mann, M.

#### CHAPTER 9. AVERSION TREATMENTS.

In: Mann, M. Primer on Alcoholism. New York: Rinehart and Co., Inc., pp. 121-127, 1950.  
 E - gen. - gen. disc. - alcohol. - abst. - classical - chem. - adjuv.  
 - desc. treatm. - emetine A-2360.

In this chapter, a brief history of aversion treatments in the United States is provided. "The earliest of these treatments was commonly known as 'The Keeley Cure' and was given in the network of Keeley Institutions which sprang up all over the country in the early 1900's." People, working in the different institutions providing this treatment, do not consider it a cure but an effective way of keeping an alcoholic from drinking for a period of time. Other



treatment, varying from simple psychological counseling to intensive psychiatric treatment, is also required. The author describes the work reported at the Shadel Sanitarium in Seattle. The author includes the conclusion provided in a report presented by the doctors at this Sanitarium. Those doctors stated that this "treatment of alcoholism (was) of value mainly for the better-circumstanced type of alcoholic patient." Also, that this treatment did "not preclude the other types of treatment for alcoholism and (could) be used with them in any combination most advantageous for the individual patient." Those institutions which use "scientifically worked out method of applying aversion treatment" may be able to be helpful in the treatment of alcoholism.

- 195 Martimor, E., and Maillefer, J.  
 LE TRAITEMENT DE L'ALCOOLISME PAR L'INTOLERANCE  
 PROVOQUEE. [The treatment of alcoholism by provoked  
 intolerance.]  
 Le Progrès Médical, 64(17): 685-689, 1936.  
 F - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
 desc. treatm. - apomorph. A-2282.

In order to create conditioned reflexes against alcohol, ipeca and apomorphine have been used, as well as therapeutic shocks and autohemotherapy. In the latter case, the hospitalized patient has to drink one litre of red wine daily. Every second day, 10 cc. of blood are taken and reinjected into the upper thighs. Nausea, vomiting, diarrhoea, itching, blurred vision and rapid heartbeat are some of the reactions. Until the second or third injection, the taste of wine remains pleasant, but as the treatments progress, a bitter or sour taste is found. There results a repulsion, not only against the taste, but against the sight and the smell of wine. The percentage of successful treatments has been found to be insufficient, therefore doses of ipeca have been added. 0.40 g. of ipeca extract have been mixed with the daily ration of wine, without the knowledge of the patient. The symptoms are more severe than those caused by autohemotherapy alone. After 15 meals followed by nausea, the treatments cease and the patient is completely abstinent from wine. When he has recovered from the digestive problems, a glass of wine without ipeca is offered to him, which provokes the same symptoms of repulsion. Three or four weeks later, the same test is done, with the same results. The patient is dismissed from the hospital, and observed by his family. Numerous letters have been received, stating that the treated patients remain abstinent. In the treatments with ipeca, 5 failures out of 45 cases have been reported. While this treatment obtains abstinence from



wine alone, the autohemotherapy causes intolerance of any alcoholic drink.

- 196 Matveev, V.F., and Vorobiev, V.S.  
 OPYT LECHENIYA BOL'SHIMI DOZAMI METRONIDAZOLA  
 BOL'NYKH KHRONICHESKIM ALKOGOLIZMOM V USLOVIYAKH  
 PSIKHONEVROLOGICHESKOGO DISPANSERA. [Treatment of  
 chronic alcoholism with large doses of metronidazole in psycho-  
 neurological dispensaries.]  
 Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 69:  
 906-909, 1969.  
 R - gen. - clin. study - out-pat. - more ss. - male - alcohol. - abst.  
 - classical - chem. - indiv. - desc. treatm. - goal establis. - c.r.,  
 35 - f.p., 9m. - metroni. B-3299.

Fifty male alcoholics were treated with metronidazole through the psychoneurological dispensary on an out-patient basis. Of these men who had been drinking heavily for 5 to 20 years, 14 were treated for the first time and 36 had relapsed from other treatment programs. Each patient was given metronidazole and then asked to smell and gargle with his preferred alcoholic beverage. During these treatment sessions, which lasted over a period of 28 days, most of the patients developed an aversion to the alcohol, especially after the first 10 days. After an 8 month follow-up period, 9 patients had a long nausea-vomiting reaction to the smell and taste of alcohol, 23 had a moderate reaction to alcohol, 13 patients had a weak but unpleasant reaction to alcohol and 5 had no reaction at all but did not want to drink alcohol. During the follow-up period, 10 patients did consume small amounts of alcohol (20-30 gr.). Three experienced strong reactions, 4 patients experienced nausea and a desire to vomit and 3 felt nothing but did not wish to consume any more alcohol.

- 197 McBrearty, J.F., Dichter, M., Garfield, A., and Heath, G.  
 A BEHAVIORALLY ORIENTED TREATMENT PROGRAM FOR  
 ALCOHOLISM.  
 Psychological Reports, 22: 287-298, 1968.  
 E - gen. - pat. - more ss. - female - male - alcohol. - abst. -  
 classical - combin. - indiv. - group - desc. treatm. - goal  
 establis. B-3130.

A program for the treatment of alcoholism based on the principles of behavior modification is outlined by the authors. This program

was developed in accordance with the early formulations and therapeutic work with alcoholics of the senior author, as well as the experience of the first three authors at the Eagleville Hospital and Rehabilitation Center. Approximately 50 alcoholics patients receive treatment under the program at any given time at the Eagleville Hospital and Rehabilitation Center, however during the course of one year approximately 300 patients are treated. The key to the program is the application of the principles of behavior modification to the behavioral problems of the alcoholic.

Treatment involves a number of procedures and is aimed not only at the specific target behavior of drinking excess, but also at the behaviors which are related to the drinking. Five major procedures are set out, although several techniques are used in some of them. The first procedure, didactic training for behavioral change, consists of group meetings where 10 patients and a trained counselor discuss and practice the various principles of behavior modification, such as the shaping of behavior, reinforcement, extinction and stimulus generalization. The second approach is with aversive conditioning procedures. There are four different methods used but they are all based on the concept of increasing tension through alcohol stimulation and then providing sudden release and comfort which is associated with a non-alcoholic beverage. Relaxation procedures can be carried out individually or in groups. The fourth approach is through desensitization procedures which focus on behavioral areas thought to be involved in the series of behaviors leading to drinking. Finally, training is given in areas of behavioral deficit if they are considered to encourage alcoholism or hinder rehabilitation. Such training requires the patient to behave in fabricated scenes or real life situations.

- 198 McCance, C., and McCance, P.F.  
 ALCOHOLISM IN NORTH-EAST SCOTLAND: ITS TREATMENT  
 AND OUTCOME.  
 British Journal of Psychiatry, 115: 189-198, 1969.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 abst. - classical - electro. - desc. treatm. B-3182.

The authors studied groups of alcoholics admitted to 2 psychiatric hospitals in Scotland. Besides the regular hospital treatment provided in the hospital, one of the hospitals offered aversion therapy and group psychotherapy. The study group consisted of 194 male alcoholics who were willing to undergo 6 weeks of treatment. Daily aversion sessions were given from Monday to Friday for 4 weeks and twice weekly sessions were given the last 2 weeks. "The procedure of sitting down to a drink anticipating it and savouring its

smell, coupled with irregular shocks, was gone through up to 5 times at each treatment session." Descriptions of the group psychotherapy procedure and the general regime at the 2 different hospitals are included. At the one hospital, there were no differences in the results between those alcoholics treated with aversion therapy, group psychotherapy, and the regular hospital treatment. Eight of the psychotherapy group relapsed and were readmitted for aversion therapy. Five of the aversion group relapsed and were readmitted for the group psychotherapy. Comparing the hospitals, it was found that while both "provided basically similar treatment regimes", they treated fundamentally different clientele resulting in significantly different rates of success.

- 199 McGuire, R. J., and Vallance, M.  
 AVERSION THERAPY BY ELECTRIC SHOCK: A SIMPLE  
 TECHNIQUE.  
 British Medical Journal, 1(5376): 151-153, 1964.  
 E - res. - case disc. - clin. study - tables - alcohol. - abst. -  
 classical - electro. - indiv. - desc. treatm. A-1952.

The author presents five case studies and the results of additional treatment sessions for those types of symptoms that can be treated with aversion techniques. Aversion therapy using apomorphine and emetine, in the treatment of alcoholism, has several disadvantages in that the onset of nausea and vomiting is uncertain and that the cerebral depressant effect of the drugs may interfere with conditioning. In addition, there may be serious side-effects with the use of drugs. The authors introduce an inexpensive and portable electric shock apparatus which can administer shocks to the patient's forearm. As the patient imagines or views the problem associated stimuli, he can be given a shock as painful as he can bear. The apparatus can even be taken with the patient so he can self-administer the shocks in his usual surrounding under his usual circumstances. Short case studies concerned with treatment of fetishism, obsessional ruminations, smoking, writer's cramp, and alcoholism are presented. While it is realized that the alcoholic's condition was far from stable, he has been abstinent for six months after treatment. The technical details to build such an apparatus are provided. It is hoped that with the advantages that this technique has over chemical aversion techniques and that with the preliminary results provided, that further research will be encouraged.

## 200 McGuire, R. J.

## AVERSION THERAPY FOR OFFENDERS.

Medical and Biological Illustration, 19: 161-165, 1969.

E - gen. - gen. disc. - alcohol. - drug addict. - abst. - classical - chem. - electro. - indiv. - desc. treatm. - disc. theo. treatm.

B-3721.

The author briefly describes the classical conditioning experiments carried out by Pavlov. He explains how behavior therapy, based on classical conditioning, can ease peoples' phobias and compulsions. The use of apomorphine and mild electric shock as aversive stimuli are discussed and it was felt that the latter was more appropriate. With the electric shock, accurate timing of the punishment and the behavior are no problem and there are no fairly dangerous side-effects. In regards to this treatment, "the function of the shock was to vitiate the pleasure habitually inherent in the situation against which the subject is being conditioned." The author describes a portable, rather simple apparatus which can be used to produce variable and suitable shocks. It is suggested that "the only situation in the body in which an electric shock is dangerous is "across the heart." A shock of about 70 V. is usually an acceptable one. The author describes the procedure of electrical aversion therapy in the treatment of alcoholism indicating how important the timing of the shock is with the sipping of the alcohol. As many as 20 to 30 trials could be carried out in each session, repeated several times a day or only a couple of times a week. The author suggests that "the danger of relapse after treatment is greatly reduced if only partial reinforcement is used---." Aversion therapy for sexual deviators is also discussed. Studies are presented in which sexual offenders, a car thief, drug addicts, and alcoholics were treated with electric shock and chemical aversion procedures, using suxamethonium chloride. Punishment of crimes prevents the person from actually misbehaving because of fear of further punishment. "In conditioning, ---, the effect is to reduce the strength of the attraction so that the subject does not carry out the delinquent behavior because he no longer wants to do so."

## 201 Mertens, G. C., and Fuller, G. B.

THE MANUAL FOR THE ALCOHOLIC.

Report: Willmar State Hospital, Willmar, Minnesota, 70 pp., 1964.

E - gen. - gen. disc. - alcohol. - abst. - classical - operant - chem. - electro. - pos. reinfor. - relax. - combin. - desc. treatm. - disc. theo. addict. - disc. theo. treatm. - apomor. - disul. - emetine

A-2007.



The authors provide a manual to help alcoholics learn a method of self-control in their efforts to change their drinking behavior. The material is presented over 15 chapters titled: Basic principles of a learning approach to alcoholism, Why you should try this program, Shaping of behavior, Chaining of Behavior, Changing or manipulating stimuli, Deprivation-satiation, Incompatible responses, Alcoholics Anonymous, Physical restraints or environmental aids, Aversive control, Extinction, Anxiety reduction, Relaxation, An analysis of behavior, and Ultimate aversive consequences. The total spectrum of positive and negative reinforcements are dealt with and include practices which can be carried out by oneself or in a more formal treatment program. The use of chemical aids - Antabuse, apomorphine and emetine are discussed pointing out that when the aversive consequences to a response are strong, the response will be weakened. Conditioned reflex therapy is outlined and a list of centers where aversive techniques are used to treat alcoholics, is provided. The authors discuss the concept of extinction indicating that when drinking is no longer reinforced, the behavior will cease to occur. Anxiety reduction acts as one of many reinforcers. If these could be eliminated, drinking should decrease. The association of the behavior and its consequence is explained. Usually, the powerful reinforcer of anxiety reduction is experienced immediately after drinking while the negative reinforcers associated with drinking are not experienced until hours later. This leads to a general reinforcement of drinking. The authors deal with the importance of being able to relax and present procedures in how to relax. In general, "the stimulus-response analysis of self-control (is presented which), if applied, can bring (the) drinking behavior under control."

202 Mertens, G. C., and Fuller, G. B.

THE THERAPIST'S MANUAL.

Report: Willmar State Hospital, Willmar, Minnesota, 55 pp., 1964.  
E - gen. - gen. disc. - pat. - alcoh. - abst. - mod. - operant -  
pos. reinfor. - relax. - combin. - desc. treatm. - disc. theo.  
addict. - disc. theo. treatm. A-1977.

The purpose of this manual is to present "an operant learning approach to self-control for alcoholism." This is carried out under the following headings: Basic principles, Methods for behavioral change in the alcoholic, Aids to extinction, Extinction of avoidance responses, Analysis of behavior, Ultimate aversive consequences, Aids to shaping, Aids to environmental assistance, Incompatible responses, Relaxation, and Total abstinence vs. controlled drinking. The authors deal with motivation and describe



possible reinforcers of desired behavioral changes in alcoholics. Some of these reinforcers, in a treatment center are: food, reading material, psychotherapy, length of stay in the institution, TV and other communication media, and regular hospital activities. Also provided was a list of reinforcers of drinking. These reinforcers must be eliminated or overcompensated for by negative reinforcers if drinking is to decrease. The therapist should be capable of helping to establish "possible stimulus-response relationships that exist in the alcoholic's life." These relationships are quite complex and difficult to analyze but are of extreme importance in changing the alcoholic's behavior. The authors provide lists giving aids which are helpful in educating the alcoholic about alcohol, in providing reinforcement for his cooperation and in keeping the alcoholic from drinking. The importance of having the ability to relax is also discussed. The manual is concluded with a description of the 60 day planned program provided to train self-control in an alcoholic population by the authors.

203 Mestrallet, A., and Lang, A.

INDICATIONS, TECHNIQUES ET RESULTATS DU TRAITEMENT  
PAR L'APOMORPHINE DE L'ALCOOLISME PSYCHIATRIQUE.

[Indications for, technique and results of the treatment with  
apomorphine in psychiatric alcoholism.]

Journal de Médecine de Lyon, 40: 279-285,

1959.

F - res. - clin. study - pat. - more ss. - alcoh. - abst. -  
classical - chem. - indiv. - desc. treatm. - disc. probl. pat. -  
goal establis. - c.r., 45 - f.p., ly. - r.r., 45 -  
apomor.

A-2083.

The authors suggest that the use of disulfiram is only a partial solution in the treatment of alcoholism and that it cannot be applied to a large segment of the alcoholic patients. Instead, the apomorphine treatment should be used for "psychiatric" alcoholism. The treatment consists of associating the drinking of alcohol with nausea and vomiting produced by the intramuscular injections of apomorphine. The authors treated 183 patients in this way. Of this number, 40 percent were living by themselves, 55 percent were married or lived as couples, and 9 percent were living with their parents. 70 percent of all the patients had already been hospitalized at least once before for alcoholism and 34 percent had already been treated with disulfiram. After a normal detoxification program, each patient was intramuscularly injected with an initial dose of 5 milligrams of apomorphine. Minutes later, each was given an alcoholic beverage. It was found that some patients needed a higher dose of apomorphine, up to 15 milligrams, and sometimes, 1 or 2

grams of ipeca, as well. The drugs caused the patients to experience nausea and to vomit. The association of alcohol and the sick feeling was continued every three hours, day and night, for three days. After this, on a pre-determined day each week, each patient was subjected to 3 more vomiting attacks. This continued for 15 to 20, and sometimes, 30 weeks. Aversion to alcohol usually appeared during the fifth week. Of the 183 patients treated, 41 percent remained completely abstinent for over a year. The majority of them also had reintegrated themselves into normal life patterns. 15 percent had tried alcohol to some degree after treatment, and 44 percent of the patients had relapsed. Those patients who appeared to be more suggestible and more manageable showed the most favorable results - 66 percent.

204 Meyers, T.J.

HYPNOSIS IN THE TREATMENT OF CHRONIC ALCOHOLISM.

Journal of the American Osteopathic Association, 44:172-174, 1944.

E - gen. - gen. disc. - out-pat. - alcohol. - abst. - classical - hypn. (aver.) - adjuv. - desc. treatm.

A-2274.

The author presents a method for the use of hypnosis in the treatment of chronic alcoholism. It was pointed out that hypnosis was used in the treatment of alcoholism to help in the recall of factors contributing to the person's alcoholism and to help in the free association technique. However, if the alcoholic was not severely psychopathological and if the hypnosis was begun shortly after a drinking bout, hypnosis could do much in establishing an aversion to alcohol in the person. Before treatment, the alcoholic completed the Minnesota Multiphasic Personality Inventory and the Rorschach test and underwent a complete physical examination. "The suggestions imparted under our treatment (were) given in daily trances for at least two weeks, for frequent reinforcement (was) essential. Everything must be done to assure success, failure in any step reduces the prestige and faith necessary for a good result." The author provides a routine of suggestions which should be followed under hypnosis. It is stated that "with each succeeding session, the picture--- must be reinforced and gradually all the senses are to be conditioned against alcohol so that the sight, smell, touch and even sound of the word will cause an aversion besides that of the taste of it." Reinforcement sessions should be given to support the hypnotic suggestions made "and to enhance the substitute behavior, whether it be Alcoholics Anonymous, church work, or other social, or occupational activity."

- 205 Mielczarek, G., and Beattie, B.  
 AVERSION THERAPY.  
 British Medical Journal, 1(5384): 701, 1964.  
 E - lett. ed. - gen. disc. - few ss. - male - alcohol - abst. -  
 classical - electro. - desc. treatm. - goal establis. A-2002.

In this letter, the authors state that the aim of the electric shock technique was to set up both an aversion to alcoholic beverages and a conditioned avoidance response of drinking a non-alcoholic beverage. Patients were presented with two glasses, one containing his favorite alcoholic beverage and the other containing his favorite non-alcoholic drink. They were instructed to pick up the alcoholic drink at anytime. As they did, a shock of rapidly increasing voltage was applied until they drunk the non-alcoholic beverage to stop the shock. This procedure was carried out 8 to 10 times a session for 10 or more sessions. Of three patients treated and followed for periods of 12 to 16 months, the first, who had received some 170 shocks over 12 months, drank two to three beers twice a week. The second, who received about 80 shocks, consumed up to six pints of beer a day or half his previous consumption. The third patient, who recieved about 90 shocks, abstained for the first two months but then resumed his heavy drinking. Electric aversion therapy seems to have distinct advantages in that the shock can be applied at the correct time and it is easy to administer both in in-patient and out-patient practices.

- 206 Miller, E. C., Dvorak, B. A., and Turner, D. W.  
 A METHOD OF CREATING AVERSION TO ALCOHOL BY REFLEX  
 CONDITIONING IN A GROUP SETTING.  
 Quarterly Journal of Studies on Alcohol, 21: 424-431, 1960.  
 E - res. - clin. study - pat. - more ss. - male - alcohol - abst. -  
 classical - chem. - group - desc. treatm. - goal establis. -  
 emetine - pilocar. - ephedrine A-1953.

The paper concerns an experiment in which groups of alcoholics were treated using chemical aversion techniques. The author discusses the early literature dealing with chemical aversion methods. Duplicate studies have failed, in most cases, to provide the encouraging results obtained in the initial studies. Factors, other than the actual treatment itself, that are of importance are the personalities of the patients, the interest and understanding of the hospital personnel, and the addition of supportive procedures. These include pretreatment interviews, adjuvant therapy, and re-inforcement conditioning sessions at regular intervals following treatment. The pros and cons of giving chemical aversion treat-

ments in groups are presented. The inhibitory effects on conditioning that might result may be counterbalanced by the generalization of effects in which the retching of one patient leads to the same in the other patients. Twenty male patients were treated in groups of 4. Emetine hydrochloride and ephedrine sulfate were prepared for injection. In each group, a patient previously conditioned was held over and participated to lead in the aversive responses. Individual conditionability was found to be quite variable - some needing the addition of oral emetine, others responding well to placebo injections, and others responding without an injection. There was an attempt to keep in phase the actions of the patients in a group session. However, the variability of responses was so great that coordination of this activity was impractical. While the follow-up period was too short to determine the effectiveness of this procedure, 5 of the 10 patients for which there is adequate follow-up had remained abstinent. Three others had brief lapses but stopped drinking spontaneously. The negative effects, on aversion therapy, of the group were neutralized by the overwhelming element of suggestion. Due to the observations of this experiment and the amount of the therapist's time saved dealing with groups of patients, this approach appears to be a useful clinical tool.

207 Miller, E.C., Dvorak, B.A., and Turner, D.W.

A METHOD OF CREATING AVERSION TO ALCOHOL BY REFLEX CONDITIONING IN A GROUP SETTING.

In: Franks, C.M., ed. Conditioning Techniques in Clinical Practice and Research. New York: Springer Publishing Company, Inc., pp. 157-164, 1964.  
 E - res. - clin. study - pat. - more ss. - male - alcoh. - abst. -  
 classical - chem. - group - desc. treatm. - disc. contraind. -  
 disc. generaliz. - disc. theo. treatm. - goal establis. - c.r., 55 -  
 f.p., 9m. - emetine A-2328.

The authors present a review of previous reports on attempts to create aversion to alcohol by establishing a conditioned reflex. A hospital in New Orleans began treating inpatient alcoholics in 1958 using a technique similar to that used by W.L. Voegtlin. However, due to the limitation of time, treatment within a group setting was attempted. The authors discuss the possible inhibitory factors related to this type of treatment caused through the use of a group setting. It was felt that the possible negative influences could be countered by adequately directing the patients' attentions toward the alcohol. Also, any dissociative influence caused by the group setting "might well be mitigated by the strong element of suggestion (seeing someone else retching in the presence of alcohol)." The



authors describe the 2 week treatment program in which the patients were confined to the hospital but received no adjuvant psychotherapy. Sessions, lasting from 30 to 45 minutes, were held daily Monday to Friday. Each group was made up of 4 patients who were given injections of a solution of emetine HCl, pilocarpine HCl, and ephedrine in a sound-proofed room with chairs and a table on which many varieties of alcoholic beverages were placed. A previously conditioned patient was held over to the next group to "initiate a chain response of gagging and retching, ---, among the group members very early in the treatment." Patients were treated on an empty stomach and were asked to drink plenty of water as these factors seemed to potentiate emesis. After their injections, the patients were told to pour and sniff their favorite beverage. Only when gagging began, were they allowed to drink the beverage. An attempt was made to have all the patients go through the session routine together. However, the variability in the individual responses and the amount of control that this necessitated, did not allow this phasing of routine. Two of 10 patients, for which there was adequate follow-up, relapsed to their former state, 3 had brief lapses but stopped these spontaneously and the other 5 remained abstinent for at least 8 months.

## 208 Miller, M. M.

## TREATMENT OF CHRONIC ALCOHOLISM BY HYPNOTIC AVERSION.

Journal of the American Medical Association, 171(11): 1492 - 1495, 1959.

E - gen. - clin. study - gen. disc. - more ss. - female - male -  
 - alcohol. - abst. - classical - chem. - hypn. (aver.) - adjuv. - indiv.  
 - desc. side-effects - desc. treatm. - disc. contraind. - goal  
 - establis. - c. r., 85 - f. p., 9m. - r. r., 15 A-1954.

The author discusses the contraindications and the side-effects of the use of nauseant and emetic drugs and expounds on the hypnotic aversion treatment for alcoholism. A weakness of the chemical aversion techniques was that their effects were felt on a conscious level. With hypnosis, it was felt that the conditioned-reflex reaction could be established in the unconscious mind beyond the reach of conscious resistances and ego defenses. The advisability is also questioned of submitting patients, often suffering nutritionally, to daily emesis for days on end. The hypnotically induced reflex aversion could be established much quicker, more effectively, and without causing the patient as much discomfort. In addition, the patient's state of affectivity is greatly increased under hypnosis, possibly leading to a more intense and lasting, aversion reaction. Of 24 patients treated with hypnotic aversion, only 3 had relapsed



after a period of 9 months. The average number of treatments was two and 18 of the patients were continuing psychotherapy. Hypnotic aversion therapy is only a procedure to control drinking so that other constructive rehabilitative steps can be taken. A description of the method of treatment along with three short case descriptions are presented.

- 209 Miller, P. M., and Hersen, M.  
 QUANTITATIVE CHANGES IN ALCOHOL CONSUMPTION AS A  
 FUNCTION OF ELECTRICAL AVERSIVE CONDITIONING.  
 Journal of Clinical Psychology, 28(4): 590-593, 1972.  
 E - res. - clin. study - pat. - few ss. - male - alcohol. - abst. -  
 classical - electro. - indiv. - desc. treatm. - disc. generaliz. -  
 goal establis. B-3710.

The authors describe a novel quantitative drinking measure and show its use in measuring the effectiveness of electrical aversion conditioning in the treatment of alcoholism. The patient underwent a taste test in which 3 alcoholic beverages and 3 nonalcoholic beverages, in opaque glasses containing exactly 100cc. of the drink, were presented and he was asked to rate them on taste dimensions. The patient was allowed 20 minutes to complete the test and on its completion, the exact amount of beverage consumed from each glass was calculated. After a baseline period of 7 days during which the test was given each day, the patient underwent twice daily aversion conditioning. The patient received a shock which varied between 3 to 4 milliamps on his left forearm as he sipped his preferred beverage, bourbon, and was terminated when he spat the alcohol into a pan. Alcohol sips and shock were paired 20 times each session, twice a day, for 5 days. This conditioning period was followed by 6 days of baseline testing, followed by 5 days of electrical aversion. The taste test was readministered 6 months after discharge. During baseline testing, alcohol consumption ranged from 39cc. to 105 cc. with a mean of 68cc. After the first electrical aversion phase, alcohol consumption dropped, ranging from 15 cc. to 39cc. with a mean of 22.4cc. At the same time, nonalcohol consumption was found to have increased. From the taste test data, it was also found that conditioning generalized to scotch and vodka. After 6 months, the taste test data showed a continuation of low levels of alcohol consumption and reports indicated he had maintained total abstinence.

## 210 Miller, P. M.

## THE USE OF BEHAVIORAL CONTRACTING IN THE TREATMENT OF ALCOHOLISM: A CASE REPORT.

Behavior Therapy, 3: 593-596,

1972.

E - gen. - case disc. - out-pat. - few ss. - male - alcohol. - mod. - operant - pos. reinfor. - desc. treatm. - goal establis. - f. p. , 3m.

B-3131.

This case report concerns an alcoholic whose excessive drinking caused a major conflict in his marriage. He had noticed that his wife's disapproval of his drinking had caused him to increase his consumption. It was found that he would have 7 to 8 -11/2 oz. drinks of bourbon a day. In consultation, it was determined that a unit of 1 to 3 drinks per day was acceptable to both him and his wife. A contract was written in which the husband was allowed to drink this number of bourbon before dinner and any other drinking resulted in a \$20 fine, payable to his wife. He was also to pay more attention to his wife when she was not being critical of his drinking. A contract was prepared for his wife in which she would pay him \$20 for verbally on nonverbally showing her disapproval of his drinking. She was also to pay more attention to him when he was not drinking. From the records kept by both spouses, it was apparent that after a few initial fines, the husband reduced his consumption to the acceptable level and improved marital relations were reported. After 6 months, his drinking remained within the 0 to 3 drink range/per day. This case study is then followed by a brief discussion.

## 211 Miller, P.M., and Barlow, D.H.

## BEHAVIORAL APPROACHES TO THE TREATMENT OF ALCOHOLISM.

Journal of Nervous and Mental Disease, 157: 10-20,

1973.

E - gen. - gen. disc. - alcohol. - abst. - mod. - classical - operant - chem. - electro. - pos. reinfor. - relax. - syst. desens. - vis.-verbal - desc. treatm. - disc. theo. treatm. - apomor. - disul. - emetine

B-3186.

Studies of behaviourally based alcoholism treatment regions are critically reviewed under the following headings: Aversion Therapy - Chemical aversion, Electrical aversion, Verbal aversion, and Operant Approaches - Inpatient treatment programs, In vivo treatment, Descriptive operant analysis, Controlled drinking. The drugs discussed under Chemical aversion include emetine, apomorphine and succinylcholine chloride dehydrate. Studies, in which these drugs are used, are discussed. The procedure followed by Voegtlin

and Lemere is outlined. Over a 13 year period, 51 percent of those treated were totally abstinent. These patients received 2 or more booster sessions during the year following the initial treatment. The author notes that with succinylcholine chloride dehydrate, there have been very few long lasting abstentions in the studies carried out. The most extensive series of cases treated by electric shock was carried out by G. Blake. Using a 50 percent reinforcement schedule and instructing the patient to sip out the alcohol to stop the shock and not drink it, Blake found that 23 percent of his patients were totally abstinent after 12 months, 27 percent relapsed, and 23 percent could not be followed. Electric shock therapy allows for precise control of the timing, intensity, and duration of the aversive stimuli. However, this approach has not been demonstrated to be superior to chemical aversion. In verbal aversion, aversive sensations and images of nausea and vomiting are associated with all aspects of the sequence of behavior leading to drinking. Relief-producing scenes are also used. Operant approaches to treatment are usually carried out in a clinical setting. Rewards are provided for non-drinking behaviors and deprivation is given for drinking related behaviors. It is with these approaches, that the goal of moderation in alcoholics is accepted. Results have indicated that alcoholic drinking can be altered through manipulation of schedules of reinforcement in the environment. "Despite the variety of behavioral treatments of alcoholism reported over the last several years, few of these have been systematically investigated under controlled conditions." This has lead to a great difficulty in comparing the different studies.

212 Miller, P.M.

BEHAVIORAL TREATMENT OF DRUG ADDICTION: A REVIEW.  
International Journal of the Addictions, 8(3): 511-519, 1973.  
E - gen. - review - drug addict. - abst. - classical - chem. -  
electro. - relax. - syst. desens. - vis.-verbal - combin. - desc.  
treatm. - disc. theo. treatm. - apomor. - succinyl. B-3760.

The author presents a literature review concerning behavioral approaches to the treatment of drug addiction. It is stated that "a total behavioral treatment model would involve a two-fold approach. First, techniques which decrease the immediate reinforcing properties of the drug must be used." "Secondly, techniques designed to provide the addict with behaviors that are incompatible with drug taking must be administered." In the papers cited, the drugs of addiction which were treated were morphine, methadone, demerol, gasoline, heroin, and Dexamyl. The different techniques used were classical conditioning, chemical aversion, electrical aversion,

verbal aversion, and systematic desensitization. The author discusses these different approaches. "Although each of the reports presented in this review (indicated) that behavioral approaches (altered) drug addiction in some patients, it (was) not clear which components of treatment (were) responsible for the behavior change." In this area of research, there is a "need for more extensive experimental analyses of behavioral techniques using adequate control conditions, objective measurement systems, and systematic follow-up data. "

- 213 Miller, P.M., Hersen, M., Eisler, R.M., and Hemphill, D.P.  
ELECTRICAL AVERSION THERAPY WITH ALCOHOLICS: AN  
ANALOGUE STUDY.  
Behaviour Research and Therapy, 11: 491-497, 1973.  
E - res. - clin. study - pat. - more ss. - male - alcoh. - abst. -  
classical - electro. - desc. treatm. - disc. generaliz. B-3248.

The authors carried out a controlled clinical study of the treatment of alcoholism using electrical aversion therapy. 30 male chronic alcoholics were split into the following 3 groups: aversion conditioning, control conditioning, and group psychotherapy. The patients were matched on age, education and length of problem drinking. The aversion group received treatment twice daily for 10 days. Shock intensity was adjusted for each patient. Each patient received his favorite alcoholic beverage during 50 percent of the trials and 2 other alcoholic drinks the other times. A shock was administered when the alcoholic sipped the drink and stopped when he got rid of it in a pail. Thirty pairings were made during each session. The patients in the control conditioning group followed the identical procedure except that the intensity of the shock was very small. The patients in the third group received 6 group therapy sessions over a period of 10 days. Before and after treatment, each alcoholic was "asked to rate a variety of alcoholic and non-alcoholic beverages on a semantic differential scale," and these ratings were used to show the patient's attitude towards the specific beverages. The amount of beverage consumed before and after treatment was also used to measure the success of treatment. The results indicated that half of the patients in the aversion group drank 50 percent less during their post-treatment test than they did in their pre-treatment test. The corresponding figures for the 2 other groups were 3 out of 10 and 0 out of 10. Secondly, there were no significant differences in attitude change from the pre- to post-treatment tests among the 3 groups.



- 214 Miller, P. M. , Hersen, M. , Eisler, M. , and Watts, J. G.  
 CASE HISTORIES AND SHORTER COMMUNICATIONS.  
 Behaviour Research and Therapy, 12(3): 261-263, 1974.  
 E - res. - case disc. - clin. study - out-pat. - few ss. - male -  
 alcoh. - abst. - classical - pos. reinfor. - desc. treatm. - goal  
 establis. B-3809.

The author treated a 49-year-old male alcoholic on an outpatient basis using "an A-B-C-D experimental single case design -- in which contingent reinforcement of a zero blood/alcohol concentration was systematically introduced, removed, and then reintroduced." The study was divided into a baseline phase, a contingent reinforcement phase, a non-contingent reinforcement phase, and then a second contingent reinforcement phase, each phase lasting 3 weeks. The patient, being short of money, could receive up to 6 dollars during a contingent reinforcement phase when his measured blood/alcohol concentration was 0.00. The average blood/alcohol concentration levels for the following phases were: baseline, 0.11 percent; contingent reinforcement, 0.00 percent except for only 1 reading of 0.03 percent; non-contingent reinforcement (in which the money was given irrespective of his drinking), 0.04 percent; and the second contingent reinforcement, 0.00 percent. With this one patient, the contingent reinforcement approach seemed to be quite effective.

- 215 Mills, K. C. , Sobell, M. B. , and Schaefer, H. H.  
 TRAINING SOCIAL DRINKING AS AN ALTERNATIVE TO  
 ABSTINENCE FOR ALCOHOLICS.  
 Behavior Therapy, 2: 18-27, 1971.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcoh. -  
 mod. - operant - electro. - group - goal establis. -  
 d. r. , 3 B-3132.

An experiment is discussed in which 13 male alcoholics were allowed to drink alcohol in a socially acceptable manner. They were given electric shocks for: 1. ordering straight drinks, 2. taking large gulps, and 3. consuming large quantities. All subjects had long histories of drinking and hospitalization, and experienced some sorts of withdrawal symptoms while in the process of "drying out". Bar facilities were set up in their hospital unit with outlets for finger electrode cards. Pain threshold levels for the subjects were determined and two levels of shock were administered for a duration of 1.5 seconds. The high shock, which was 30% above the subject's pain threshold, was given whenever a subject ordered a straight drink and gulped it. He also received it when he



ordered or drank more than three drinks. The subjects were socially encouraged to consume more than three drinks but were then socially supported for not doing so the times they refrained. The low shock was administered for any of the three single infractions. Four of the original subjects dropped out of the sessions. They had shown extremely exaggerated avoidance responses to the electric shocks. Graphs are provided showing the decreases in the three types of infraction over the 14 sessions. The 6-week follow-up data showed that 2 experimental subjects and none from the untreated control group could be classified as social drinkers. A short discussion of whether the aim of treatment should be abstinence or moderation is presented. The strength of behavioral therapy to bring about the latter aim is also examined.

- 216 Molinier, A., Bovagnet, G., and Tchourumoff, N.  
 LES MANIFESTATIONS CARDIOVASCULAIRES AU COURS DES  
 ÉPREUVES DE CONDITIONNEMENT DANS LA DÉSINTOXICATION  
 ÉTHYLIQUE. [Cardiovascular signs in the course of conditioning  
 tests in alcohol detoxication.]  
 Semaine des Hôpitaux de Paris, 42: 1562-1568, 1966.  
 F - res. - clin. study - pat. - more ss. - female - male - alcohol. -  
 abst. - classical - chem. - desc. side-effects - desc. treatm. -  
 apomor. B-3702.

A study was performed on 88 patients (80 males, 8 females, aged 25 - 70 years) to determine: a) Whether detoxication cures by apomorphine and disulfiram are reasonable and justified, considering their cardiovascular manifestations, and b) Whether alcoholics with cardiovascular afflictions can benefit from these cures without serious danger. The clinical manifestations considered were divided into two groups: 1) alcoholic myocarditis and 2) independent cardiac difficulties, where the use of alcohol could prove to aggravate or complicate the condition. Treatment consisted of the administration of apomorphine after patients had been sensitized to disulfiram. Patients were divided into 3 groups and results shown. Group 1 (46 patients without any previous cardiac afflictions) tolerated the apomorphine treatment well, without any danger. Group 2 consisted of 27 patients with slight cardiac afflictions. Six patients experienced blood pressure difficulties and required careful surveillance, but were not forced to discontinue treatment. Except for 2 of the 15 patients in the third group (those with severe cardiac afflictions) no serious complications were observed and treatment was able to be completed. Treatment with apomorphine and disulfiram does cause cardiovascular modifications distinct from those inherent with alcoholic intoxication. These modifications include an

increase in pulse, a drop in blood pressure, which was more or less important, and various minor electrocardiographic difficulties. Age of the patient did not significantly affect the seriousness of those manifestations. These effects seen from the use of apomorphine after disulfiram sensitization were not significantly different from those seen after the use of apomorphine alone. Previous myocardic infarction is considered as a contra-indication for this treatment, and the individual reactions of patients, conditioned by the sensitivity of their neuro-vegetative systems must also be considered. The authors feel however, that with careful supervision, these detoxication cures can still be conducted with success.

- 217 Moore, J. N. P.  
 THE TREATMENT OF ALCOHOLISM.  
 Practitioner, 171: 310-319, 1953.  
 E - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 apomor. - emetine A-2030.

The author states that "Whatever the psychological disharmony which leads an individual to use alcohol as a drug in excess doses, once the constitutional barrier has broken down, the patient is in the grip of a progressive disease over which he has a swiftly declining control." He adds that: "The most sinister feature of the illness is a progressive deterioration in personality;--." These two points are discussed and the author goes into the treatment of alcoholism dealing with both the psychological approaches and the physical methods. Under the latter, the author discusses the hospitalization of the patient and 1. continuous narcosis, 2. antabuse treatment, 3. aversion techniques, and 4. hormone treatment. With the third method, an attempt is made to establish a conditioned reflex so that the sight, taste, and smell of alcohol will induce nausea and vomiting. Three papers giving fairly favourable results are cited. This treatment is short, dramatic, and can have strong suggestive value. Guilt-laden addicts seem to have an unconscious desire for punishment which this treatment seems to satisfy.

- 218 Moore, J. N. P.  
 LXIX - THE TREATMENT OF ALCOHOLISM.  
 Pakistan Medical Journal, 5(4): 13-22, 1954.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - adjuv.  
 - desc. treatm. - apomor. - emetine A-2336.

The author discusses the different treatments of alcoholism under the following headings: The Psychological Approach - the doctor, the patient, Alcoholics Anonymous, the psychiatrist; and Physical Methods, - Aversion Techniques, Hormone Treatment. The author states that there are 2 objectives in treatment. The first is to achieve immediate and complete abstinence and the second is to get the patient's cooperation and allow him to remain an abstainer. The aim of the aversion techniques "is to establish a conditioned reflex so that the sight, taste, and smell of alcohol acting as the conditioned stimulus will induce nausea and distaste." The author outlines the methods of creating an aversion to alcohol used by W. L. Voegtlin and J. Y. Dent. The results of the efforts of I. Lemere and W. L. Voegtlin of an over-all abstinence rate of 51 percent over 13 years for 4,096 alcoholic patients are provided. "An advantage of the emetine and apomorphine techniques is that they are short, dramatic and, ---, have strong suggestive value." The hardships connected with these techniques may be of benefit to guiltladen addicts.

## 219 Moretti, E.

IL TETRAETILTURIAM DISOLFURO NELL'ALCOOLISMO CRONICO. [Tetraethylthiuram disulfide in chronic alcoholism.]  
Rivista di Patologia Nervosa e Mentale, 72: 256-258, 1951.  
I - gen. - clin. study - pat. - more ss. - alcohol. - abst. - classical  
- chem. - desc. treatm. - disul. A-2298.

The author treated 9 alcoholics with conditioned-reflex therapy using disulfiram. After 3 or 4 associations of the wine and the alcohol-disulfiram reaction, the patients refused further alcoholic beverages.

## 220 Morgan, P., Mullin, P., and Mottaheiden, I

ELECTRICAL AVERSION THERAPY.  
British Medical Journal, 1(5383): 631-632, 1964.  
E - lett. ed. - gen. disc. - alcohol. - abst. - classical -  
electro. A-2004.

The writer of this letter to the editor agrees that the vomiting method for inducing aversion to alcohol is similarly arduous for both the patient and the therapist. The writer has been using the electric shock method and finds this method much more acceptable. The shock is produced by a 4 1/2 volt battery and is quite tolerable. The treatment is carried out with the cooperation of the patient.

Aversion therapy for alcoholics should not be abandoned because of the possible repugnance of a few of the techniques included.

- 221 Morosko, T.E., and Baer, P.E.  
 AVOIDANCE CONDITIONING OF ALCOHOLICS.  
 In: Ulrich, R., Stachnik, T., and Mabry, J. Volume Two. Control of Human Behavior. From Cure to Prevention. Glenview, Ill.; Scott, Foresman and Company, pp. 170-176, 1970.  
 E - res. - clin. study - out-pat. - few ss. - male - alcohol. - abst. - classical - electro. - desc. treatm. - disc. generaliz. - goal n. establis. B-3772.

The authors treated 3 alcoholics with electrical aversion therapy on an outpatient basis and was carried out once a week. In each session, each subject received 72 trials in twelve sets of six. Of these six, 4 contained 10 cc of a nonalcoholic beverage while the others contained 5 cc of their preferred alcoholic drink. For the first three sets of six cups, the patient was instructed to drink all six beverages and was shocked when it was the alcoholic drinks. For the next three sets of six cups, he was allowed to discard any one beverage making it possible for him to avoid one shock. In the last six sets of six cups, he was allowed to discard any two cups making it possible for him to avoid shocks altogether. The shock intensity had been predetermined, it was administered to the shin and lasted for 2 seconds. From interviews 3, 6, and 16 months following treatment, abstinence was found in one patient while controlled drinking was reported for the other 2. In addition, partial generalization across alcoholic beverages was obtained. It could not be said that their psychological adjustment and performance were substantially improved. However, they reported experiencing less anxiety. In addition, no new replacement symptoms were observed. The authors provide figures showing the patient's response latencies during the paired trials and the avoidance trials.

- 222 Morsier, G. de, and Feldmann, H.  
 LE TRAITEMENT BIOLOGIQUE DE L'ALCOOLISME CHRONIQUE PAR L'APOMORPHINE. ETUDE DE 200 CAS. [The biological treatment of chronic alcoholism with apomorphine. Study of 200 cases.]  
 Schweizer Archiv für Neurologie und Psychiatrie, 64: 472-473, 1949.  
 F - gen. - clin. study - pat. - more ss. - female - male - alcohol. -

abst. - classical - chem. - combin. - goal establis. - c. r., 55 -  
f. p., 2y. - r. r., 45 - apomor. A-2321.

Since January 1947, 270 chronic alcoholics have been treated at the Neurology Service of the Cantonal Hospital, using the apomorphine treatment method previously outlined by the authors (*Annales Médico-Psychologiques*, May 1949). Statistics are provided on 150 cases of which 128 showed a definite need for alcohol. Of the 126 men, 56 were cured (44.44%), and 13 of the 24 women (54.16%) were cured. A larger proportion of the patients who were married were cured successfully (52.25%), than of those who were divorced (9.99%), or single (26.66%). Frequent relapses occurred among waiters, while in other professions frequently encountered, 80% of the commercial travellers and 50% of the wine waitresses showed successful cures. Among patients who were considered to be "normal" (mentally) after neuro-psychiatric examination (or experiencing disorders attributable to alcoholism), 53.56% were cured; among constitutional psychopaths, 35.08% were cured; among the mentally weak, 66.66% were cured; and among neurotic's (where alcoholism was secondary), 80% were cured with the help of psychotherapy. Patients undergoing psychotherapy in addition to the apomorphine treatment showed 51.04% cure rate, while only 37.01% of the patients not receiving psychotherapy were considered successfully cured. Patients who came voluntarily showed greater probability for cure (49.5% were successful), as opposed to those who came under administrative order instead of being sent to a recovery home for drinkers. The social repercussions of this treatment method are significant: 2 to 10 days at the Neurology Service of the hospital replaces years of ineffective and costly confinement in recovery homes.

223 Morsier, G. de, and Feldmann, H.

LE TRAITEMENT BIOLOGIQUE DE L'ALCOOLISME CHRONIQUE  
PAR L'APOMORPHINE. [The biological treatment of chronic  
alcoholism with apomorphine.]

*Annales Médico-Psychologiques*, 107: 459-482, 1949.  
F - gen. - gen. disc. - tables - pat. - alcoh. - abst. - classical -  
chem. - indiv. - desc. treatm. - disc. generaliz. - disc. pharm. -  
apomor. - emetine A-2266.

The authors first analyze apomorphine as to its preparation, molecular structure, its action on the nerve centres of various animals and humans. John Yerbury Dent was the first to use apomorphine systematically in the treatment of chronic alcoholism. However, this is not relevant to behavior modification, since it only elimi-



nates the urge for alcohol, without creating a conditioned reflex. In America, Voegtlin has used the treatment with conditioned reflexes since 1936. The conditioned stimulus (the absorption of alcohol) must precede the unconditioned stimulus (nausea or vomiting). During the treatment, many different kinds of alcoholic beverages must be offered to the patient, so that he does not replace one by another after the treatments. The patients are in special sound-proof rooms, without distractions. Voegtlin uses emetine, since it does not modify the nervous centres as does apomorphine. Graphs and tables of results are shown. During the treatment with apomorphine, the patient must be isolated and without food. He is offered his favourite drinks and must drink as much as he can. Immediately afterwards, when the alcohol produces a euphoric sensation, 6 mg. of apomorphine is injected, provoking nausea. After this, the patient must drink more, and 2 or 4 hours later, another injection of 6 mg. is given. If he continues to drink, he receives a third injection 2 hours later. If he drinks only a little, the dose is decreased to 4 mg. Day and night, every 2 hours, 4 mg. are then injected. The second day, if the patient continues to drink, the procedure is repeated. If he drinks no more, only 2 mg. of apomorphine is injected every 2 hours. For 8 hours the treatment is continued until the patient becomes ill at the mere sight of alcohol. Then 10 units of insulin is given to him, and one hour later, tea with sugar. In case of relapse after dismissal, the patient must return immediately for a second treatment. The conditioned reflexes to the sight of alcohol soon disappear, but they remain for the smell and taste. Graphs and tables show the results of patients treated with and without psychotherapy, willingly and by force, followed by 8 different observations.

- 224 Morsier, G. de, and Feldmann, H.  
 LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE PAR L'APO-  
 MORPHINE. ETUDE PORTANT SUR 100 CAS. [The treatment  
 of chronic alcoholism with apomorphine. Study based on 100 cases.]  
 Revue Médicale de la Suisse Romande, 69: 417-439, 1949.  
 F - gen. - case disc. - gen. disc. - pat. - more ss. - alcoh. -  
 abst. - classical - chem. - indiv. - desc. treatm. - disc.  
 generaliz. - c. r. , 45 - apomor. - emetine A-2297.

The treatment of alcoholism has evolved from simple moral treatments to biological methods. Apomorphine, discovered in 1869 by Matthiesen and Wright, acts directly on the nerve centres, not on the stomach, as many other vomitives. A dose of 5 to 10 mg. injected under the skin produces repeated moments of vomiting. Experiments have been done with animals. John-Yerbury Dent first

used apomorphine systematically in treatments of alcoholism. The favourite alcoholic drink is given to the patient, as 3 1/2 mg. of apomorphine is given, making him vomit. He continues to drink until he can no longer tolerate it. Then he is given tea with sugar, and food. Dent reports four successful cases. Recently (1945) Dent suggests that apomorphine alone eliminates the urge for drinking, so that nausea is no longer necessary. In America, Voegtlin produces conditioned reflexes of aversion by the taste, smell, or sight of alcohol. The conditioned stimulus (alcohol) must precede the unconditioned stimulus (nausea). During the treatment, the patient must drink as many different types of alcohol as possible, in order not to become addicted to one type after having been cured of another. The patients are led into special soundproof rooms, without any distraction. Voegtlin uses emetine instead of apomorphine, since it does not affect the nerve centres. It is either placed directly into the alcohol, or injected a few minutes before offering the drink. The results published in 1948 show that out of 2323 cases treated from 1935 to 1945, 85% were abstinent for 6 months, 70% for 1 year, 60% for 2 years, 55% for 3 years, 30% for 7 years, and 25% for 10 years or more. Dr. Henri Revilliod treats patients with apomorphine but when the patient refuses to drink, he is forced to continue so that after a while he becomes sick even by the mere sight of the glass. Thus a conditioned reflex is created not only through smell and taste, but through sight. Afterwards, 10 units of insulin are injected; one hour later, tea with sugar is offered to the patient, and in the evening, he eats a normal meal. The treatment generally lasts two days. In case of relapse, the patient must return immediately for a second treatment. Out of 100 patients, 47 succeeded after 1 treatment, 7 after 2, and 1 after 3 treatments. Success is more likely for those who come willingly, also for those who undergo psychotherapy at the same time. Three different cases are then discussed.

- 225 Morsier, G. de, and Feldmann, H.  
 THE BIOLOGICAL TREATMENT OF CHRONIC ALCOHOLISM BY  
 APOMORPHINE. STUDY OF 150 CASES.  
 British Journal of Addiction, 47(2): 50-61, 1950.  
 E - res. - clin. study - pat. - more ss. - female - male - alcohol -  
 abst. - classical - chem. - adjuv. - desc. treatm. - goal establis.  
 - c. r., 45 - f. p., 9m. - r. r., 45 - apomor. A-2003.

Since the end of 1946, the authors had treated 270 alcoholic patients by using apomorphine in a hospital located in Geneva. A brief description of their methods is given and consisted of giving the patient decreasing doses of apomorphine on a schedule of every 2 hours,

night and day for from 2 to 10 days. The patient was given very little to eat and was placed in an isolation ward. Initially, his favourite alcoholic drink was given simultaneously with the injections until complete aversion to the drink was established due to the vomiting and nausea experienced with it. After the aversion was established, apomorphine was given hourly for 6 hours followed by an injection of insulin and a substantial meal. The 2 effects of this treatment are: 1) to suppress the euphoristic effect of alcohol and the craving for alcohol, and 2) to develop an aversion to the alcoholic beverage that the patient prefers. The authors present statistics on the first 150 patients who had completed the treatment at least 8 months previously. It was felt that the age of the patient was of little importance in the frequencies of cures or relapses. It could be generally stated that the relapse rates varied across the age groups from 42 to 51 percent. It was also found that the relapse rates for women and for men were 45-85 and 55-56 percent. Also, conjugal difficulties formed an important psychological factor of relapse. The relapse rates for divorced male alcoholics and separated male alcoholics were 100 and 75 percent. As far as occupation was concerned, it was found that those people, such as waiters, manual workers, and field workers exposed to the temptation by other drinkers offered the highest rate of relapses. For those patients who also received psychotherapy, 51.04 percent were cured compared to 37.01 percent of those patients who did not receive psychotherapy, in addition. Patients who underwent treatment with their own consent had a cure rate of 49.57 percent compared to 32.25 percent of those who were obligated to undergo treatment. Statistics relating cure rates with the mental states of the patients and with the alleged causes of the addiction are provided in table form. Relapse, in this study, is the resumed consumption of even a minimal amount of alcohol. While 54 percent of the patients resumed drinking without excesses, most of the relapses occurred within the first six months.

226 Morsier, G. de

LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE. [The treatment of chronic alcoholism.]

Médecine et Hygiène, 8: 425,

1950.

F - gen. - clin. study - pat. - more ss. - alcohol. - abst. - classical - chem. - indiv. - desc. treatm. - disc. pharm. - goal establis. - c.r., 45 - r.r., 45 - apomor. A-2341.

The author feels that since chronic alcoholics are sick people they should be treated as such. He goes on to describe treatment using antabuse and using apomorphine. Antabuse sensitizes the person to alcohol. When a person who has taken antabuse drinks alcohol,

nausea and vomiting are produced. The quantity of antabuse given ranges from .50 gm. to 1.5 gm. If alcohol is consumed up to 4 hours after the drug was administered, a neurovegetative crisis occurs. A detailed description of the physical reaction is given. The crisis is caused by the production of a toxic substance affecting the nervous system. The drug lasts in the body up to 6 to 12 days. Apomorphine is a much more preferable drug as it is not as dangerous. Animal studies have shown that apomorphine affects the hypothalamus and because it causes vomiting, it aids in the conditioning process of the alcoholic. It also calms the patient's anxiety and suppresses the alcoholic's need for alcohol. Apomorphine is not addictive. 529 patients were treated with this drug over a 4 year period. They were injected with 5 to 6 milligrams of apomorphine every 2 hours day and night while still drinking their favorite beverages. The treatment lasted for 5 to 10 days. The results showed that 46 percent of the alcoholics remained completely abstinent while the rest started drinking again. The author suggests that if psychotherapy had been associated with this treatment the results would have been better.

- 227 Morsier, G. de, and Feldmann, H.  
 LE TRAITEMENT BIOLOGIQUE DE L'ALCOOLISME CHRONIQUE  
 PAR L'APOMORPHINE. ETUDE DE 150 CAS. [The biological  
 treatment of chronic alcoholism with apomorphine. A study of  
 150 cases.]  
 Schweizerische Medizinische Wochenschrift, 80: 465-467, 1950.  
 F - gen. - clin. study - tables - pat. - more ss. - female - male -  
 alcohol. - abst. - classical - chem. - indiv. - desc. treatm. - disc.  
 pharm. - goal establis. - c.r., 45 - apomor. A-2265.

Since the end of 1946, 270 alcoholics have been treated with apomorphine in the Cantonal Hospital of Geneva. The technique consists of injecting apomorphine every 2 hours, day and night, to a patient who is in an isolated room and who takes his favourite alcoholic drink at the moment of the injections. In the beginning, 6 mg. are taken, and when the patient vomits, the amount is decreased to 5 mg., until a complete aversion and the impossibility of drinking any alcohol is created. Every hour for 6 hours, first 4 mg., then 3 mg., then 2 mg. of apomorphine are injected. The following hour, 10 units of insulin are administered, and the patient may have a nourishing meal and tea with sugar. The length of the treatment varies from 2 to 10 days. The patient loses the urge for alcohol, his nerves are calmed, and a complete aversion is created in him by a conditioned reflex which associates alcohol with nausea. Apomorphine acts directly on the nerve centres, not on the stomach.



Tables of statistics are given for 150 patients, 126 of them male, treated over a period of 2 years. Their need for alcohol and their habits are analysed, and their age, nationality, marital status, professions, mental state are given. Results of previous treatments are stated as well. 119 patients agreed to be treated with apomorphine; 51 succeeded after 1 treatment, 8 after 2 treatments, giving a percentage of 49.57. 60 patients relapsed after 1 or 2 treatments, equalling 50.43%. 31 patients had to be forced to take the treatment. 9 succeeded after 1 treatment, 1 after 2 treatments, which is 32.25%. 21 patients relapsed, equalling 67.75%. Thus out of the total 150 patients, 60 succeeded after 1, and 9 after 2 treatments (46.0%), while 81 relapsed (54.0%). The cause of the relapses and the reasons for failure are discussed. A psychotherapy and close medical surveillance augment the chances for success.

## 228 Morsier, G. de

LE TRAITEMENT DE L'ALCOOLISME CHRONIQUE. [The treatment of chronic alcoholism.]

Progres Médical, 79, 347-356,

1951.

F - gen. - review - tables - pat. - more ss. - alcoh. - abst. -  
classical - chem. - indiv. - desc. side-effects - desc. treatm. -  
disc. contraind. - disc. pharm. - goal establis. - c.r., 45 - r.r.,  
45 - apomor. - disul. - emetine

A-2077.

The author compares the treatment of chronic alcoholism by the three drugs antabuse, emetine and apomorphine. Historical aspects of the three are presented. The actions of antabuse are examined and the author shows how emetine came to be used in conjunction with creating a conditioned purpose by being mixed with alcoholic beverages or sub-cutaneously injected, to produce vomiting, which leads to distaste for alcohol. It can also be used in combination with other psychological treatments. Contraindications are noted in deaths and cardiovascular difficulties which have occurred because of its use. The pharmacological actions of apomorphine are given and a detailed description of apomorphine treatment for alcoholism at the Neurological Service is presented. Patients are hospitalized for approximately 7 to 10 days. After drinking 1 or 2 glasses of their habitual alcoholic beverage they are subcutaneously injected with 6 mg. of apomorphine to induce nausea and vomiting. They are encouraged to drink after this and two hours later the procedure is repeated, and again 2 days later if the patient continues to drink. Gradually the dose of apomorphine injected is decreased until the patient has developed a conditioned reflex for the smell, taste and sight of any alcoholic beverage. At this point a further psychological examination is given to determine the rea-



sons of the patient for the need for alcohol. Of 150 cases, 46% were considered long term cures, and 54% had relapsed. Cure rate was highest for those patients who had come voluntarily. The author prefers apomorphine over antabuse and emetine because he considers it harmless. Apomorphine treatment of alcoholism is considered of great importance in the field of social medicine because of the short hospitalization time it involves.

229 Morsier, G. de, and Feldmann, H.

LE TRAITEMENT DE L'ALCOOLISME PAR L'APOMORPHINE (ETUDE DE 500 CAS). [The treatment of alcoholism with apomorphine (study of 500 cases).]

Schweizer Archiv für Neurologie, Neurochirurgie und Psychiatrie, 70: 434-440, 1952.

F - res. - clin. study - pat. - more ss. - alcoh. - abst. - classical - chem. - adjuv. - indiv. - desc. treatm. - goal establis. - c.r., 35 - f.p., ly. - r.r., 35 - apomor. A-2086.

Five hundred alcoholics were treated with conditioned-reflex therapy using apomorphine. The treatment lasted 6 to 10 days and usually averaged 9. During treatment, the patient was first given a complete medical examination. He was then isolated in a room and received his favorite beverage. When he began to feel the euphoric sensation of the drink, he was injected subcutaneously with 6 milligrams of apomorphine. After 3 to 7 minutes, vomiting followed. This procedure was followed every 2 to 4 hours, day and night, until the patient stopped drinking. At that point, the dose was gradually reduced and injected every 8 hours. Psychotherapy, on either an individual or group basis, was administered to 183 of the patients. According to the treatment applied, the percentages of patients who were abstinent for 12 months, of those who showed controlled drinking and of those who relapsed were; apomorphine alone, 32.5 percent, 12.4 percent, and 36.3 percent; apomorphine plus psychotherapy, 31.3 percent, 18.6 percent, and 45.2 percent; apomorphine plus abstiny, 22 percent, 8 percent, and 46 percent; apomorphine plus psychotherapy plus abstiny, 29.4 percent, 47.0 percent, and 23.6 percent.

230 Mosovich, A.

EL TRATAMIENTO DEL ALCOHOLISMO POR EL METODO DE LOS REFLEJOS CONDICIONADO. [The treatment of alcoholism by the method of conditioned reflexes.]

Día Médico, 15: 562-563,

1943.

Sp - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
 desc. treatm. - apomor. - emetine A-2343.

The first attempts to apply conditioned reflexes in a rational form in the treatment of alcoholism, were made in Russia. A state of aversion was created by the association of unpleasant stimuli with alcoholic beverages. Apomorphine was used by Fleming in the United States, and later, Voegtlin and Lemere substituted it with emetine. The patient was hospitalized during the first months of the treatment. The soundproof room contained a bar provided with alcohol, illuminated and clearly visible to the patient. Medical accessories had been removed from the patient's view. 0.4 to 1 cc. of the solution of Voegtlin and Lemere was injected, and when nausea began, a drink of alcohol was given to the patient. Aversion against one type of alcohol might be obtained, but the patient could then become addicted to another kind. Drinkers of wine relapsed more often than beer drinkers, and success was most frequent with drinkers of whisky or other distilled drinks. The ingestion of alcohol was associated with olfactory stimuli, so that the patient was made to smell the drink before taking it, with the presence of the alcohol bottles the visual and auditory stimuli were before him, and the noises of vomiting were heard through a loudspeaker. The treatment consisted of 4 to 7 consecutive sessions repeated after 1, 2, 3, 6, 9, and 12 months during the first year.

- 231 Mossa, G., and Coda, G.  
 OSSERVAZIONI CLINICHE E TERAPEUTICHE SULL'ALCOOLISMO  
 E SUL TRATTAMENTO DEGLI ALCOOLISTI. [Clinical and  
 therapeutic observations on alcoholism and on the treatment of  
 alcoholics.]  
 Minerva Medica, 50: 546-548, 1959.  
 I - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
 - chem. - adjuv. - indiv. - desc. treatm. - apomor. A-2263.

The treatment for alcoholism used at the Ospedale Psichiatrico di Collegno in Turin was the conditioned reflex method. Alcoholics, represented 32 to 36 percent of all admissions to the hospital between 1952 and 1956. Each patient was first detoxicated, given vitamins and other supportive treatment. 956 patients, received from 1 to 5 conditioned-reflex sessions using apomorphine during this time. The treatment was considered to have been successful but that psychological and social treatment was required after discharge from hospital.

## 232 Mottin, J. L.

DRUG-INDUCED ATTENUATION OF ALCOHOL CONSUMPTION.  
A REVIEW AND EVALUATION OF CLAIMED, POTENTIAL OR  
CURRENT THERAPIES.

Quarterly Journal of Studies on Alcohol, 34: 444-472, 1973.  
E - gen. - gen. disc. - review - alcoh. - abst. - classical - chem. -  
electro. - desc. treatm. - disc. theo. treatm. - apomor. - cit.  
cal. carb. - disul. - emetine - metroni. - succinyl. B-3251.

The author discusses the use of drug therapies in the treatment of alcoholism under the following headings: Antidipsotropics, disulfiram, citrated calcium cyanamide, metronidazole; Aversion therapy, emetics, curariforms, and sympathomimetics; Ataractics; and Hallucinogens. "The underlying aim of aversion therapy is 1) to establish a conditioned aversive response to alcohol and 2) to maintain an avoidance of alcohol based on that response." The special difficulties presented by this type of approach are dealt with. Some of these are that this treatment could increase fear and anxiety, those emotional components which led to drinking, possibly, in the first place. In addition, "not all responses are equally amenable to conditioning." Patient characteristics could play a dominant role in the success of this type of treatment. Researchers have held various opinions on which of the drugs available for this type of treatment is the most suitable. In some cases, verbal suggestion and tape recordings are used to enhance the effects of a particular drug. One author rejected all emetics because of their " (a) sedative effects, (b) less than traumatizing reactions, and (c) unpredictable onset." The same author then recommended the use of succinylcholine chloride dihydrate (Scoline). In regards to the most appropriate aversive stimulus (UCSS), "there have been concerns about the choice of an emetic versus --- (Scoline) - and versus electric shock - based on whether or not emetics are not more natural UCSS to associate with a consummatory response to alcohol, a drug often associated with vomiting." The author reviews the literature on aversion therapy and concludes that "the success rates of this therapeutic approach do not warrant the suffering imposed on the alcoholic patient by use of the emetics and curariforms."

## 233 Müller, D.

BETRACHTUNGEN ZUR DIFFERENZIIERTEN INDIKATIONS-  
STELLUNG DER MEDIKAMENTÖSEN HILFE BEI DER BEHAND-  
LUNG ALKOHOLKRANKER. [Considerations on differential  
indication for drug treatment in alcoholics.]

Psychiatrie, Neurologie und Medizinische Psychologie, 23(4):  
216-224, 1971,

G - gen. - gen. disc. - alcoh. - abst. - chem. - combin. - indiv.  
 - desc. side-effects - disc. generaliz. - apomor. - cit. cal. carb.  
 - disul. B-3711.

The article begins by stating that in the treatment of alcoholics, drugs are an important support. The most commonly used drugs are Apomorphine and Disulfiram. The author takes the stand that the Disulfiram treatment is useless, worthless and dangerous. He speaks in favour of a fairly new drug which has not been widely used so far: Citrus-calcium- carbamide. The question, whether both types of drugs (apomorphine and disulfiram) should be used simultaneously or not, is raised. After briefly describing both treatments individually, the author concludes that a combination of the drugs would not be worthwhile. However, he does mention other doctors who did use this approach and who found it fairly successful. At the present time, there is not enough definite criteria to indicate which treatment would be most successful for each case. The treatments in question are: Aversion, Disulfiram or a combination of the two. The article concludes by giving various guidelines for deciding which treatment should be selected.

- 234 Muñoz, L., Saint-Jean, H., Concha, I., and Ruiz, M.  
 TRATAMIENTO DEL ALCOHOLISMO CON TERAPIA AVERSIVA  
 ELECTRICA. [Treatment of alcoholism with aversive electrical  
 therapy.]  
 Revista Medica de Chile, 100: 1196-1205, 1972.  
 Sp - res. - clin. study - tables - pat. - alcoh. - abst. - classical -  
 electro. - adjuv. - indiv. - desc. treatm. B-3234.

Chile is one of the countries which have studied the problem of alcoholism the most. In the treatment of alcoholism, the patient was put before three glasses with alcohol, and three with another beverage. The patient was told to take a sip of the alcoholic beverage, keep it in his mouth, and taste it well. At the same time, an electric shock was given to him. When he could no longer stand the shock, the patient had to spit out the alcohol. When he drank the non-alcoholic beverage, no shock was given. A record was kept of the time, the maximum intensity tolerated by the patient, and the number of shocks applied during each session. Half of the patients received a shock every time they took alcohol, while the other half received intermittent shocks and was told to spit out the alcohol even when they felt no shock. In the cases where shock was applied, it began as soon as the patient had taken a sip. It was never applied with non-alcoholic beverages, nor before the patient had the alcohol



in his mouth. The sessions took place daily and lasted 15 to 20 minutes, each patient being treated individually. Graphs and tables are provided showing the number, intensity and duration of the shocks, age and status of the patients, duration of addiction, other treatments provided, and the percentages of success and failure. Those who succeeded could tolerate stronger currents than those who failed. A discussion follows, stating that electrical aversion therapy is today one of the most useful techniques in order to obtain abstinence from alcohol.

## 235 Nash, J.F.

THE TREATMENT OF ALCOHOLISM BY ESTABLISHING A  
CONDITIONED REFLEX.

Southern Medicine and Surgery, 102: 576, 1940.  
E - gen. - gen. disc. - more ss. - alcoh. - abst. - classical -  
chem. - desc. treatm. - disc. contraind. - disc. generaliz. - disc.  
pharm. - apomor. - emetine - pilocar. - ephedrine A-2283.

The author describes the technique of and the contraindications to the conditioned-reflex treatment of alcoholism as outlined in a previous article. The present author reported the findings of the previous author that between 62 and 69 percent of 538 patients remained abstinent after undergoing such treatment. The treatment consisted of establishing an unconditioned reflex of nausea and vomiting to every type of liquor, but mainly the type he usually consumed. The formula of the solution which produced the sweating, salivation, nausea, and vomiting was comprised of emetine HCl, 50 gr.; Pilocarpine, 25 gr.; Ephedrine sulfate, 23 gr.; and water, q. s., 40 cc. Whether the patient vomited or his stomach was emptied via a Ewald tube, the absorption of alcohol was not to be permitted. Contraindications consisted of "the cardiovascular-renal syndrome, hepatic cirrhosis with or without esophageal varices, hernia (unless guarded), active peptic ulcer or history of hermehemesis, and active psychosis."

## 236 Neveu, P.

INDUCTION PSYCHOTHERAPIQUE D'AVERSION POUR LES  
BREUVAGES ALCOOLISES ET D'APPETENCE POUR L'EAU.  
CURE DES BUVEURS, SANS MEDICAMENTS. [Psychothera-  
peutic induction of aversion for alcoholic beverages and a strong  
desire for water. Treatment of drinkers, without using drugs.]

Annales Médico-Psychologiques, 117(2): 721-724. 1959.

F - gen. - clin. study - few ss. - alcoh. - abst. - classical -



chem. - desc. treatm. - goal establis.

A-2088.

The author discusses a new psychotherapeutic technique called "induction". It consists of deconditioning and reconditioning of the alcoholic willing to undergo treatment. In an alcoholic, conditioning has taken place since childhood through education, imitation, identification, and publicity that the drinking of alcoholic beverages is pleasurable. Through "induction", a contrast is created in the gustatory sensations received from tasting pure water and an alcoholic beverage. The water is perceived as being very pleasant while the alcohol is perceived as being very unpleasant or even unbearable. The author paired the smell of ammonia, acetic acid, and ether with the alcohol. Through repetition, the aversion was amplified. Three alcoholics were treated and none could stand the alcohol after the treatment. The follow-up period was too short to evaluate the effectiveness of this type of treatment. However, it seemed to be quicker, without danger, and much cheaper than using apomorphine.

- 237 O'Brien, J. S. , Raynes, A. E. , and Patch, V. D.  
TREATMENT OF HEROIN ADDICTION WITH AVERSION THERAPY,  
RELAXATION TRAINING AND SYSTEMATIC DESENSITIZATION.  
Behaviour Research and Therapy, 10: 77-80, 1972.  
E - res. - clin. study - pat. - few ss. - female - male - drug  
addict. - abst. - classical - electro. - relax. - syst. desens. -  
vis.-verbal - combin. - indiv. - desc. treatm. - goal establis. -  
c. r. , 95 B-3161.

Several behavioral treatment approaches were combined to develop an effective and rapid treatment for heroin addiction. Classical aversive conditioning procedures using electric shock and verbal imagery aversive stimulus were used to extinguish the consummatory response of heroin use. Relaxation and systematic desensitization techniques were used to overcome anxiety and tension. The male and female patients had been addicted to heroin for 8 and 6 years, respectively. Before treatment, both were detoxified on methadone for an average of 18 days. The patients were taught the relaxation technique first and they were instructed to use it frequently. A key word was paired with the relaxed state to establish a conditioned stimulus which the patients could use to counteract tension. Aversive conditioning was then given in which stories containing all the stimuli associated with the acquisition and use of heroin were presented using the appropriate jargon. The orderly presentation of these stimuli were paired with electric shocks, initially, and then with verbal imagery aversive stimuli. As the latter gained strength in its emotional

impact, the number of electric shocks per session were reduced. A self-rating scale was devised (and is presented) to evaluate the presence of craving cued by each of the drug associated stimuli. While on a pass away from the hospital, the female patient was forcibly restrained and injected with Numorphine. Later, she could not refrain from taking a fix of heroin. She returned and finished the treatment in which systematic desensitization therapy was added to treat the conditioned anxiety and craving that she experienced. Fourteen months after treatment, she had remained drug free. The male patient had been drug free during his 6 month follow-up.

## 238 O'Hollaren, P.

## PENTOTHAL INTERVIEW IN THE TREATMENT OF CHRONIC ALCOHOLISM.

California Medicine, 67(6): 382-385,

1947.

E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. -  
 classical - chem. - adjuv. - desc. treatm. - goal establis. - c.r.,  
 55 - f.p., 9m. - emetine A-2259.

The author has used the pentothal interview as an adjunct in a more comprehensive treatment program involving conditioned reflex therapy. Pentothal interviews can be useful in treating the alcoholic as a diagnostic aid and, in selected cases, an aid to psychotherapy. Interviews may be repeated "until an accurate appraisal of the patient's personality, psychic make-up and psychotherapeutic needs" could be made. Hypnotic suggestion was also utilized and felt to be of benefit. The author provides a description of the technique used in the administration of sodium pentothal. Alcoholics treated by the author and his co-workers were classified into 6 different categories. Group 1 consisted of those patients who had relapsed following 2 conditioned reflex treatments and were treated by a pentothal interview and psychotherapy. Of the 9 alcoholics treated, 4 remained abstinent for an average length of 18 months. Group 2 consisted of patients who received a pentothal interview with psychotherapy plus conditioned reflex therapy on initial treatment. Three of 7 alcoholics remained abstinent for an average period of 12 months. Group 3 consisted of those who received pentothal plus conditioned reflex therapy treatment. Four of 8 patients remained abstinent for an average length of time of 8 months. Group 4 consisted of those patients who received pentothal plus conditioned reflex therapy on patients who had relapsed following 2 or more conditioned reflex treatments. Seven of 11 patients remained abstinent for an average period of 11 months. "These patients were selected as being the most difficult cases found in a series of nearly 4,000 chronic alcoholics." While this study

group consisted of only 35 patients, pentothal interviews seem to be beneficial in obtaining a more complete psychiatric history and in saving both the doctor's and the patient's time.

- 239 O'Hollaren, P., and Lemere, F.  
 CONDITIONED-REFLEX TREATMENT OF CHRONIC ALCOHOLISM. RESULTS OBTAINED IN 2323 NET CASES FROM 3125 ADMISSIONS OVER A PERIOD OF TEN AND A HALF YEARS.  
 New England Journal of Medicine, 239(9): 331-333, 1948.  
 E - res. - clin. study - tables - female - male - alcohol. - abst. - classical - chem. - goal establis. - c. r., 45 - f. p., 4y or more - d. r., 3 - emetine A-1956.

The results of conditioned-reflex treatment of 2323 of 3125 alcoholic patients admitted over a period of ten and a half years are reported. The patients were from all walks of life, some well adjusted while others were severely neurotic, and ranging from very intelligent to borderline. The ages of the vast majority fell into the 35 to 55 years group. Four to 8 aversion sessions were held per patient in which the nauseant drug, emetine, was administered. With the onset of its effects, the patient was given various types of alcoholic beverages. The results showed that such factors as age, occupational stability, marital unhappiness, nervousness, history of recurrent delirium tremens, and financial indolence have definite effects upon the prognosis of success or failure of treatment. It was found that 85 percent of the patients treated would remain abstinent for six months or longer, 70 percent would remain so for a year, 60 percent for 2 years, 55 percent for 3 years, 40 percent for 4 years, 30 percent for 7 years and 25 percent for 10 or more years. This treatment is of definite economic and social benefit, even for those patients who relapsed. It is hoped that this technique will be utilized more widely, by itself and in combination with other forms of therapy.

- 240 O'Hollaren, P., and Lemere, F.  
 LOS REFLEJOS CONDICIONADOS EN EL TRATAMIENTO DEL ALCOHOLISMO CRÓNICO. [The conditioned reflex in the treatment of chronic alcoholism.]  
 America Clinica, 14(6): 554-555, 1949.  
 Sp - gen. - clin. study - pat. - more ss. - female - male - alcohol. - abst. - classical - chem. - desc. treatm. - c. r., 75 - f. p., 1y. - emetine A-2276.

The treatment of chronic alcoholism by conditioned reflexes consists in a progressive development of an aversion against the taste, the smell, and the sight of alcoholic drinks. Usually 4 to 8 sessions are sufficient. Each time emetine is administered, and immediately before the nausea, an alcoholic drink is given to the patient. The repetition of these sessions creates a profound aversion against alcohol. From the middle of 1935 to the end of 1945, 3125 patients of all professions and all social classes were admitted to the clinic for treatment of chronic alcoholism. Their ages varied between 20 and 78 years, and 93% were male patients. 32 patients could not continue the treatment due to health problems. Out of these 3125 patients, 750 terminated the treatment for various reasons, although 446 of them continued to progress satisfactorily. 50 patients have died during these 10 1/2 years, all of them abstainers. In order to classify a patient as definite abstainer, an absolute abstinence is required from the end of his treatment to the time of this study. 1042 patients, or 44.8% succeeded. 92 others relapsed and had to receive a second treatment, after which they succeeded, raising the percentage to 48.8%. 85% of the patients abstained from alcohol during half a year after treatment, 70% during one year, 60% during two years, 55% during three years, and 40% during four years. 25% refrained from drinking for more than 10 1/2 years. The significance of personal and social influences on the patient is important for the success of the treatment. Besides conditioned reflexes, other methods such as electric shock or chemical treatments are being investigated.

## 241 Paterson, A.S.

## MODERN TECHNIQUES FOR THE TREATMENT OF ACUTE AND PROLONGED ALCOHOLISM.

British Journal of Addiction, 47(2): 3-20, 1950.  
 E - gen. - gen. disc. - alcohol. - abst. - classical - chem. - adjuv.  
 - desc. treatm. - disc. contraind. - apomor. - emetine - pilocar.  
 - ephedrine A-1981.

In this paper, read to the Society for the Study of Addiction in England, the author discusses Lecoq's treatment of alcoholism, Aversion or conditioned reflex therapy, Antabuse therapy, and Psychological considerations. After detoxication, conditioned reflex therapy must be carried out to condition the patient against the desire to take alcohol. A solution which is used as an emetic consists of emetine hydrochloride, 1 gr.; pilocarpine, 1/4 gr.; ephedrine sulphate, 2/3 gr.; and water, 12 ml. The nausea produced from this solution usually lasts longer than that produced by apomorphine. Tips on the use of apomorphine and emetine are pro-



vided. "In aversion treatment it is obviously necessary to adhere closely to the laws governing the acquisition of conditioned reflexes, yet judging from the literature this is not always done." The author points out that the patient should not be allowed to retain any alcohol he has ingested during this treatment. His favorite beverage should be given only after he has become nauseated which will lead to vomiting or the alcohol ingested should be removed from his stomach. "Some physicians carry out this treatment on alternate days, giving some seven treatments ---." If the patients remain strong physically, a more concentrated regime could be followed. Certain physiological and psychological factors are associated with this therapy. First, the actual act of vomiting may tend to reduce the mental tension from which so many of the patients suffer and secondly, "as the treatment proceeds the patient's physical state becomes temporarily rather low and he becomes highly suggestible." Fewer than 5 or 7 of these sessions would be less likely to be effective. Congestive heart failure, severe cirrhosis of the liver, hernia, peptic ulcer or a history of recent haematemesis are physical contraindications in the use of aversion therapy.

- 242 Pattison, E. M., Coe, E., and Rhodes, R. J.  
 EVALUATION OF ALCOHOLISM TREATMENT; A COMPARISON  
 OF THREE FACILITIES.  
 Archives of General Psychiatry, 20: 478-488, 1969.  
 E - res. - clin. study - tables - out-pat. - pat. - more ss. -  
 alcohol. - abst. - mod. - classical - disc. theo. treatm. B-3134.

The authors interviewed groups of successfully treated alcoholics from three different types of treatment centers. Fourteen patients from an aversion-conditioning hospital, 12 patients from an out-patient psychotherapy clinic and 19 from a half-way house were given a drinking scale score (DSS), an interpersonal health scale score (ISS), a vocational health scale score (VSS), and a physical health scale score (PSS). A mean score was then obtained for each group in regards to each scale measured. These mean scores were then compared with each other and with the treatment approach taken by the corresponding treatment facility. Each of the 3 different treatment facilities are briefly described. What the different scales were supposed to indicate was also provided. Scores for these patients on every scale was provided at the time of intake into the treatment facility and after successful completion of the treatment program. From the mean scale scores for each of the 3 facility populations at intake, it was found that there were significant differences in various dimensions of health. Using the mean scores on the scales given after treatment, it was apparent that the 3 faci-



lity populations differed in terms of which variables showed the most improvement. The patients at the conditioning hospital at the time of intake had the lowest pathological scores on the DSS, ISS, VSS, but a slightly higher PSS. After treatment, they still had the lowest DSS, VSS, intermediate PSS, and highest ISS. The scores at intake indicate that this population is relatively "less sick" and indeed, this population was found to be more well-off and more stable. The conditioning hospital seemed to reflect the needs of this population quite well. The mean scores on these scales for those successfully treated alcoholics at the half-way house upon intake, indicated that this population was the most pathological and showed the greatest improvement. It was felt that the half-way house facility was well suited to handle this type of population. The scores from the patient population at the outpatient clinic were between the mean scores of the previous two populations. Again, this facility seemed well suited for this type of population. "Each of (the) three populations (tended) to improve in different ways, according to the role of alcoholism in their life, their particular life style defenses, their rehabilitation needs, and the methods and goals of the facility to which they went."

243 Pecknold, J. C. , Raeburn, J. , and Poser, E. G.

INTRAVENOUS DIAZEPAM FOR FACILITATING RELAXATION FOR DESENSITIZATION.

Journal of Behavior Therapy and Experimental Psychiatry, 3:  
39-41,

1972.

E - gen. - case disc. - pat. - few ss. - female - male - drug  
addict. - abst. - classical - relax. - syst. desens. - combin. -  
desc. side-effects - desc. treatm. - goal establis. -  
c. r. , 95

B-3193.

The theoretical rationale, the general procedure, and the side-effects of using depressant drugs in conjunction with desensitization are outlined and related articles are cited. The authors used intravenous diazepam as a desensitizing agent with a man and woman who suffered from panic attacks, multiple phobias, and barbiturate dependence. The man, when admitted, was anxious, was unable to move outside the unit, cried, and constantly voiced fears of losing control. When he was not allowed barbiturates, he suffered with toxic psychosis due to drug withdrawal. After 15 sessions of relaxation training, his response was inadequate and he became more demoralized. This was his second attempt at behavior therapy. It was decided that diazepam should be administered along with the verbal relaxation instructions. Five mg. of the drug was given and a profound degree of relaxation was

obtained in about 15 minutes. This permitted the presentation of items from a desensitization hierarchy. Five such sessions were given with a reduction of 1 mg. of diazepam per day. In the sixth session, no drug was administered and the same degree of profound relaxation was maintained. A total of 14 sessions were required to eliminate his fears of loss of control. The woman's heavy intake of barbiturates required a withdrawal period of 4 weeks. As she was too anxious to become relaxed, diazepam-assisted relaxation training was initiated. Six consecutive sessions were given with the doses of diazepam decreasing to zero. Desensitization was begun in the ninth session and proceeded to a successful conclusion. No undue side-effects of diazepam were noted beyond a burning sensation at the time and site of the injection. Intravenous diazepam was used as an adjunct to, rather than as a substitute for, the procedure of systematic desensitization. There appeared to be no drug craving after treatment in the patients who had been dependent on barbiturates. There was also no evidence of drug toxicity, nor drug accumulation in the patients. For extremely anxious patients, intravenous diazepam gives some indication of what relaxation is like.

244 Petrantoni, S.

SULLA TERAPIA DI CONDIZIONAMENTO DELL'ALCOOLISMO CON L'ANTABUS. [On the conditioning treatment of alcoholism with Antabuse.]

Rivista di Patologia Nervosa e Mentale, 72: 636-638, 1951.  
I - gen. - clin. study - alcohol. - abst. - classical - chem. - disul. A-2299.

The author treated alcoholics with conditioned-reflex therapy using disulfiram. After a number of associations between the alcoholic beverage and the alcohol-disulfiram reaction, the patients refused further alcoholic beverages.

245 Pfeiffer, C.C., and Unna, K.

NEWER TREATMENT OF THE CHRONIC ALCOHOLIC.

Modern Hospital, 73(4): 102, 104, 106, 1949.  
E - gen. - gen. disc. - alcohol. - abst. - classical - chem. - adjuv.  
- goal establis. - apomor. - emetine A-2051.

In this article, the authors discuss the newer drug treatments for alcoholism. "These are: 1. emetics, to produce a conditioned reflex against alcohol, 2. tolseral, to sedate the shakes without cloudy

consciousness, and 3. antabuse, which, if carefully used, will safely decrease the alcoholic's tolerance to alcohol." In 1850, a doctor added tartar emetic to whisky so that his servant would not touch another drop of it. The greatest difficulty with this type of treatment is the failure to find drugs which would produce less serious toxic side-effects than emetine and apomorphine. The author reports the results by Voegtlin and Broz, who treated 2,323 alcoholics between the years 1935 and 1945. After one conditioning series, 85 percent remained abstinent for 6 months, 70 percent for one year, 60 percent for two years, 40 percent for four years, 30 percent for seven years, and only 25 percent for ten or more years. Of those who relapsed, the average length of sobriety experienced was eleven months. These clinicians felt that psychotherapy, social, economic and physical rehabilitation would enhance these results.

246 Picard, and Liabot

CURES DE DESINTOXICATION DES ALCOOLIKES DANS UN HOPITAL MARITIME. [Detoxication therapy of alcoholics in a naval hospital.]

Revue de Médecine Navale, 6: 29-45,

1951.

F - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. - desc. treatm. - disc. generaliz. - apomor.

A-2252.

Three different therapies are discussed by the author using: curethyl, apomorphine, and antabuse. Curethyl only suppresses the urge for alcohol; it is administered into the veins, which has several disadvantages. The method of apomorphine has been found to be more successful. This method is based on the creation of a conditioned reflex against alcohol. The patient is isolated in a room and may drink as much as he likes. 6 mg. of apomorphine is injected under the skin, causing nausea and vomiting. After this he must drink more, and after 2 to 4 hours, another 6 mg. is injected. If the patient continues to drink, a third injection of 6 mg. is given. If he drinks a little, only 4 mg. is injected every 2 hours, day and night. The following day, if he can no longer drink, 2 mg. is injected every 2 hours. It is necessary to force the patient to drink, so that he eventually becomes disgusted by the mere sight of alcohol. At that moment, 10 units of insulin are injected, and tea with sugar is served. The average length of the treatment is 48 hours. One disadvantage is that an aversion is caused against only one kind of alcohol at a time. Antabuse provokes an aversion against any type of alcohol. The patient can not drink alcohol without experiencing dizziness. A precise physical examination of the patient is very necessary before the treatment. The results of these are given for 2 patients. For 4 days the patient must not drink alcohol. Then,

in the morning, 1 gr. or 0.50 gr. of antabuse are injected. Alcohol is offered to the patient and characteristic symptoms appear. A psychotherapy must accompany the treatment. After dismissal from hospital, the patient continues to take antabuse daily, and returns regularly for examinations. Other treatments with vitamin B4 and nicotinamide are mentioned, giving the results of 3 cases. Different attitudes of patients are also discussed.

- 247 Pickens, R., Bigelow, G., and Griffiths, R.  
 AN EXPERIMENTAL APPROACH TO TREATING CHRONIC  
 ALCOHOLISM: A CASE STUDY AND ONE-YEAR FOLLOW-UP.  
 Behaviour Research and Therapy, 11: 321-325, 1973.  
 E - gen. - case disc. - tables - pat. - few ss. - male - alcoh. -  
 mod. - operant - pos. reinfor. - syst. desens. - combin. - indiv. -  
 desc. treatm. - goal establis. - f.p., ly. B-3135.

The treatment of a single male alcoholic is described in the paper. For the initial 6-week period, he was allowed to drink as much bourbon as he wished at any time in his hospital quarters. It was found that he consumed an average of 30.7 ounces of alcohol per day drinking heaviest around 8 to 9 a.m., and 7 to 8 p.m. He reported finding it difficult to talk to people while not drinking and showed that he enjoyed talking with others while he drank. For the second period of treatment, the patient had to carry on a conversation with a member of the staff for 1 minute before he was allowed to obtain a drink and then was confined to his room in social isolation while he drank. This practice caused his drinking to decrease over time. In the third phase, a form of systematic desensitization was used in which stimuli more closely associated with drinking were presented in a controlled manner until the patient no longer reported wanting to drink. While drinking, he was asked to decrease the magnitude of each sip and increase the time between sips. Over a period of time, his mean sip magnitude gradually decreased reaching the value reported for normals. In the last phase of treatment, he was given jobs to carry out to establish alternative reinforcers which would maintain behavior incompatible with drinking. After experiencing two drinking bouts, he was given antabuse and after one year had remained fully employed.



- 248 Prokop, H.  
 GEDANKEN ZUR VERHALTENSTHERAPIE VON SUCHTKRANKEN.  
 [ Thoughts on the behavior therapy of addicts. ]  
 Wiener Medizinische Wochenschrift, 123(39): 567-570, 1973.  
 G - gen. - gen. disc. - pat. - alcoh. - abst. - chem. - electro. -  
 pos. reinfor. - syst. desens. - combin. - disc. generaliz. -  
 apomor. - disul. - emetine - succinyl. B-3728.

This article deals generally with behavioral treatment (modification) and discusses some of the more important methods of it. The article begins by suggesting two methods for the treatment of alcoholism. The first is group therapy during which the alcoholic should develop an awareness of his problems. If this approach fails, behavior modification is suggested. A combination of the two is urged for better results. The behavioral therapy rejects Freud's psychoanalysis completely. Instead, a conditioned reflex and the associated process of learning and conditioning forms the basis for the behavioral therapy. Pavlov is acknowledged founder of this method. A large part of the article deals with the various methods and briefly discusses their effects or usefulness. Some of the methods listed are: desensitization, succinylchloride, operant-conditioning, a self-assertion training and the aversion treatment. Exercises are recommended for relaxation purposes. Of the various methods, it is suggested that the aversion treatment is one of the best. The drugs used are either Apomorphine, Emetine, or Antabuse. However, the effectiveness of this method is debatable, for the success rate is not very high. The aim of this method is not only the treatment of the symptoms of the addiction, but also the neurotic bases for them. The article ends by praising a hospital for alcoholics in Innsbruck, which has found that active participation in sports has proven beneficial for the alcoholics.

- 249 Pullar-Strecker, H.  
 APOMORPHINE PLUS INSULIN FOR ALCOHOLIC ADDICTION.  
 Medical Press and Circular, 212: 11-13, 1944.  
 E - gen. - case disc. - few ss. - male - alcoh. - abst. - classical  
 - chem. - desc. treatm. - disc. probl. pat. - goal establis. -  
 apomor. A-2050.

The author presents a case description of a man who was an alcoholic and who was treated with Dent's apomorphine method. A brief description of Dent's method is included. This method consists of pairing the alcoholic's favorite drink with an intramuscular injection of 1/20 gr. apomorphine. Vomiting ensues and is followed by restful sleep. The alcoholic's situation and his treatment are



described. Because of his inability to sleep, he received a course of modified insulin treatment which produced only somnolence, not coma. The course of apomorphine treatment is listed. Most of the article consists of a description of the patient and his improvement written by his wife. "Insulin has no lasting effect upon alcohol addiction, it is the apomorphine that puts an end to the craving." The author prefers Dent's method to the Aversion method in that each patient is asked to promise that if he should take a drink of liquor, he would return and get an injection of apomorphine within a few hours. If apomorphine had been given within the same day, the craving for alcohol would not have taken hold again.

250 Quinn, J. T., and Kerr, W. S.

THE TREATMENT OF POOR PROGNOSIS ALCOHOLICS BY  
PROLONGED APOMORPHINE AVERSION THERAPY.

Journal of the Irish Medical Association, 53(314): 50-54, 1963.

E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
classical - chem. - adjuv. - desc. treatm. - goal n. establish. -  
c. r., 10 - f. p., 3m. - r. r., 45 - d. r., 45 - apomor. A-2046.

The authors treated 22 male alcoholics, all having poor prognosis, using a modified apomorphine aversion procedure. Twelve of the patients were formal referrals while the rest were informal referrals. After a drying out period of 1 to 2 weeks and a thorough physical examination, each patient received apomorphine and alcohol once a day, six days a week for 3 months. The doses of apomorphine and alcohol were kept as small as possible as the cumulative effect of these sedative drugs inevitably reduce the conditionability of the patient. Every effort was made to time the giving of the alcohol so that it would be immediately followed by the onset of nausea and vomiting. All patients received group and individual psychotherapy and were introduced to A. A. members. Thirteen patients did not complete the 70 sessions. Of the 15 which completed at least 50 sessions, only one did not drink within 4 weeks after the aversion procedure had been carried out. The program lasted 12 weeks because it was felt that any severe addict should be removed from his environment for at least that long. No ill effects were found in the patients treated in this fashion. The clinical study is followed by a lengthy discussion of the motivating factors tied in this type of treatment. Because of the number of patients who were formally referred, the prognosis was not too promising. The disadvantages of using apomorphine, a sedative, are commented on. These include the drowsiness it gradually produces and the fact that it resembles alcohol so that it may take on a reward value for alcoholics. Further examination of the defects inherent in this type of program is presented.

251 Quinn, J. T.

## LEARNING THEORY IN THE MANAGEMENT OF ALCOHOLISM.

Papers in Psychology, 1(1): 1-9,

1967.

E - gen. - gen. disc. - alcohol. - abst. - mod. - classical - chem. -  
 electro. - desc. side-effects - desc. treatm. - disc. contraind. -  
 disc. generaliz. - apomor. - disul. - emetine

B-3239.

The author discusses the different aversion techniques in behavior modification therapy for alcoholism and reviews articles, dealing with learning theory, in an effort to evaluate the efficacy of this type of therapy with alcoholism. The headings found in the first part of this article include: Emetics, Other Chemical Aversive Stimuli, Electrical Aversive Stimulus, and Generalization. Using emetics, there is great difficulty in pairing the effects of these drugs and the taking of alcohol. Research has indicated that the optimum time interval between the CS and UCS is .05 seconds with a maximum interval of 2-3 seconds. In many cases backward conditioning has been found to be very ineffective. The difficulties in using the emetic drugs apomorphine and emetine are discussed. Timing their effects with the drinking of alcohol is a problem and apomorphine had its sedative side-effects. The use of electric shock as the aversive stimuli is discussed. The author discusses several generalization effects in aversive conditioning in alcoholism indicating their importance. For the alcoholic, there is the danger of failing to generalize between treatment and non-treatment situations. There is also the danger that aversion to one alcoholic beverage will not generalize to the other alcoholic beverages. A number of reasons why the alcoholic may be unsuitable for behavior therapy are discussed. These include the personality characteristics of alcoholics, the fact that they are usually older, suffer more from brain and liver damage and due to the nature of the motivating drive in alcoholism. The goal of abstinence over moderation is discussed. Abstinence is based on the concept of 'craving' in which researchers feel that one drink in an alcoholic will undoubtedly lead to more. However, one investigator found that "true craving did not appear even during prolonged administration of alcohol to a group of episodic alcoholics until very high blood levels were reached." Research has indicated that alcoholics exposed to alcohol experience anxiety. If this is true, the appropriateness of aversion therapy, in which anxiety is paired with alcohol, must be questioned.

- 252 Quinn, J. T. , and Henbest, R.  
 PARTIAL FAILURE OF GENERALIZATION IN ALCOHOLICS  
 FOLLOWING AVERSION THERAPY.  
 Quarterly Journal of Studies on Alcohol, 28: 70-75, 1967.  
 E- res. - clin. study - more ss. - alcoh. - abst. - classical -  
 chem. - disc. generaliz. - disc. theo. treatm. - apomor. B-3191.

The authors report on ten cases in which alcoholics were treated with aversion therapy and developed an aversion for the specific type of alcohol they were treated with while not developing a generalized aversion to alcohol. The aversion therapy consisted of 36 injections of apomorphine spaced 2-hourly over 72 hours. The majority of alcoholics were treated with whisky as it usually was the drink of preference. A retrospective study of 72 patients treated in this way between 1956 and 1962 was carried out. Thirty-five patients showed no change in their drinking behavior, three remained abstinent for 2 years or more, and four patients changed their drinking behavior. In addition, six other patients were found who had not developed a general aversion to alcohol but who had changed their beverage of preference. This paper presents the analysis of these ten patients who developed an aversion to a specific type of beverage. All ten received whisky alone during the aversion sessions. After, they all avoided it. Only three patients experimented with whisky and found that it caused them to get ill. Five patients avoided all spirits and this was associated with improved social and marital relations in three of them. None of the other five patients who avoided whisky but drank other spirits were improved. Four patients had avoided whisky for at least 4 years. Six others were readmitted for further aversion therapy but that was for excessive use of other alcoholic beverages. The results showed that generalization of aversion to all types of alcoholic beverages does not occur in every case. The authors concluded that "partial generalization may be at least as common as a total aversion to alcohol." The authors go on to discuss the mechanism and the basis for the partial generalization as opposed to the total aversion to alcohol.

- 253 Rachman, S.  
 AVERSION THERAPY: CHEMICAL OR ELECTRICAL?  
 Behaviour Research and Therapy, 2: 289-299, 1965.  
 E - gen. - gen. disc. - tables - alcoh. - abst. - classical - chem.  
 - electro. - desc. side-effects - disc. pharm. - disc. theo.  
 treatm. B-3236.

The author compares the advantages and disadvantages of chemical

and electrical aversion therapy in the treatment of alcoholics and sexual deviates. The disadvantages of chemical aversion therapy include: the possible occurrence of backward conditioning which does not provide the best results, the fact that some drugs act as central depressants and therefore interfere with conditioning, the fact that different people respond to these drugs in varying degrees and ways, and "the arduous, complicated and unpleasant nature of the chemical aversion conditioning sessions." Even with these disadvantages a number of researchers have obtained good results in treating alcoholics. Most of the basic information regarding electrical aversion treatment came from the avoidance conditioning research carried out in the laboratory. "The effectiveness of aversion electrical stimulation depends on numerous factors, such as the intensity of the stimulus, the amount and kind of previous training, the person's drive level, time relations between the administration of the stimulus and the occurrence of the response." The advantage of this type of aversion therapy is the fact that "a discrete stimulus of precise intensity for a precise duration of time at precisely the required moment can be administered." Because of this control, modifications can easily be made to suite the patient's personality and the treatment situation. This approach allows a more accurate measurement of progress for more treatment trials and sessions using a fewer number of therapists, and has less side-effects. The author provides a table listing the work carried out using electrical aversion therapy on a number of different disorders.

254 Rachman, S., and Teasdale, J.

CHAPTER 3. CHEMICAL AVERSION TREATMENT OF ALCOHOLISM.

In: Rachman, S., and Teasdale, J. Aversion Therapy and Behaviour Disorders: An Analysis. London: Routledge and Kegan Paul, pp. 14-23, 1969.  
 E - gen. - gen. disc. - review - alcohol. - abst. - classical - chem. - desc. treatm. - disc. generaliz. - disc. theo. treatm. - apomor. - emetine B-3800.

The authors critically review the literature dealing with chemical aversion treatment of alcoholism. The authors found that in the clinical studies undertaken, select populations of alcoholics were used, adjunctive treatments were included, success criteria was not defined adequately enough, and many studies lacked appropriate control groups. Many of these studies are described and their results provided. An argument exists as to whether the unconditioned response is the nausea or the vomiting itself. If the answer is the former, many of the studies carried out employed backward conditioning which has been shown to be less effective. The authors



concluded that "in well-conducted studies the abstinence rate observed one year after treatment (was) in the region of 60 percent." The more psychologically and socially stable patients were found to respond better to this type of treatment. While there is strong evidence that aversion therapy is frequently effective in terminating alcoholism more conclusive proof is required.

- 255 Rachman, S., and Teasdale, J.  
 CHAPTER 9. TREATMENT OF ALCOHOLISM AND COMPULSIVE EATING.  
 In: Rachman, S., and Teasdale, J. Aversion Therapy and Behaviour Disorders: An Analysis. London: Routledge and Kegan Paul, pp. 72-77, 1969.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - electro. - relax. - combin. - desc. treatm. - disc. theo. treatm. B-3801.

The authors review several articles dealing with electrical aversion therapy for alcoholism. The relaxation-combined-with aversion therapy carried out and reported by G. Blake is dealt with in detail. At a one-year follow-up interval, Blake found that of the 37 patients treated, "46 % were abstinent, 13 % were improved, 30 % had relapsed and 11 % were unaccounted for." The present authors discuss "Blake's method of increasing the intensity of the shock" given, the use of partial reinforcement schedules, as well as the possible use of secondary unconditioned stimuli. A second study in which an anticipating avoidance learning technique was unsuccessfully employed is mentioned. In this study, the subjects were given no alcohol but were shown slides of alcohol-related pictures. The subjects failed to develop the anticipating avoidance reaction of switching off the slides before they were given shocks. More research is required.

- 256 Rachman, S., and Teasdale, J.  
 CHAPTER 19. AN ANALYSIS OF AVERSION THERAPY FOR ALCOHOLISM.  
 In: Rachman, S., and Teasdale, J. Aversion Therapy and Behaviour Disorders: An Analysis. London: Routledge and Kegan Paul, pp. 165-171, 1969.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - electro. - vis.-verbal - disc. theo. addict. - disc. theo. treatm. B-3802.

The authors present a theoretical analysis of alcoholism and its treatment with aversion therapy. Two drives which motivate drink-



ing are anxiety and craving in the physically dependent alcoholic. While these drives must be dealt with in the treatment of alcoholism, aversion therapy techniques should be used to treat incentive motivation. While "the existence of incentive motivation is more difficult to demonstrate in the case of alcoholism than in the case of sexual deviation", this motivation can be reduced by changing the quality of the primary reinforcement of this motivation or by changing the quality of the conditioned incentive motivation. Aversion therapy deals with the former so that the quality of the primary reinforcement for drinking is changed from positive to negative. In regards to the latter approach in reducing incentive motivation, "in conditioned nausea and vomiting we have available an antagonist to oppose the incentive qualities conditioned to the stimuli associated with drinking alcohol, ---." The authors deal with the problem of: if anxiety leads to drinking, why doesn't conditioned anxiety lead to further drinking? Using Mowrer's revised theory of habit (1960), the authors state that "after a punishment procedure, the internal stimuli associated with the punished drinking response will have anxiety-increasing rather than anxiety-reducing properties conditioned to them. So this response will not be brought into action by increases in anxiety and the vicious circle will not revolve."

257 Raymond, M. J.

THE TREATMENT OF ADDICTION BY AVERSION CONDITIONING WITH APOMORPHINE.

Behaviour Research and Therapy, 1: 287-291, 1964.  
 E - gen. - case disc. - gen. disc. - pat. - few ss. - female - male  
 - alcohol. - drug addict. - abst. - classical - chem. - indiv. -  
 desc. treatm. - apomor. B-3137.

The aversion conditioning with apomorphine is discussed in connection with the treatment of alcoholism, drug abuse, and cigarette smoking. The aim in each treatment is abstinence and the treatment must be voluntarily undertaken. No great amount of illness is required in the aversion therapy; only a definite period of nausea. The dose of apomorphine is between 1/20 gm. and 1/10 gm. The timing of the onset of the drug's effect and the taking of the alcohol is crucial and a preliminary session is needed to determine the length of time from the administration of the drug to the onset of its effects. The treatment room must be quiet and conversation is discouraged. It is most important that the patient does not continue to drink once the nausea has passed and only a small amount of alcohol should be consumed. A small variety of beverages should be available including one to which he is normally somewhat adverse. It is profitable to discuss the hazards of

alcohol and the benefits of not drinking in the post nausea period when the subject is usually drowsy. After nausea has been quite regularly produced for a week or so, a session is given in which a choice of a non-alcoholic drink is offered. Invariably, the subject chooses the non-alcoholic drink, and since in this session apomorphine is not given, a sense of relief is experienced. These "choice" sessions are interspersed with the regular sessions in such a way as to allow the subject to be unable to predict when these sessions will arise. Three short case reports are given dealing with a 63 year old male alcoholic, a 30 year old woman addicted to injections of Physeptone, and a 14 year old boy addicted to cigarettes.

- 258 Rennie, T.A.C., Rivers, T.D., and Vestermark, S.D.  
(Discussion Leaders)

CONFERENCE C -- THE TREATMENT OF ALCOHOLISM FROM THE PHYSIOLOGICAL VIEWPOINT. THE RESEARCH COUNCIL ON PROBLEMS OF ALCOHOL. REPORT OF A CONFERENCE ON THE TREATMENT AND PREVENTION OF ALCOHOLISM IN THE CONTEMPORARY AND POST-WAR WORLDS.

Quarterly Journal of Studies on Alcohol, 4: 143-144, 1943-44.  
E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
- chem. - adjuv. - desc. treatm. - goal establis. - c.r., 75 -  
f.p., 2y. - emetine A-2244.

This article presents a summary of prepared statements and the general discussion of Conference C., of the Conference on The Treatment and Prevention of Alcoholism In the Contemporary and Post-War Worlds, entitled, "The treatment of alcoholism from the physiological viewpoint." It was felt that the main physiological developments lay in the fuller understanding of the role of dietary and vitamin deficiencies. The influence of these biochemical deficiencies in the production of physical complication in alcoholism is discussed. Conditioned reflex therapy was also discussed. A concise outline of the technique used is presented which indicated that patients were given 4 to 7 sessions of treatment on successive days and at periods of time 1, 2, 3, 6, 9, and 12 months after the initial treatment. "At the Washingtonian Hospital 74 percent of 640 patients remained abstinent throughout 2 years; (while) 62 percent of 290 patients treated remained abstinent throughout 4 years." Psychotherapy should be provided for patients treated in this manner if necessary.

- 259 Requet, A., and Revol, L.

UNE NOUVELLE CURE DE L'ALCOOLISME. [A new cure for alcoholism.]

La Presse Médicale, 57(66): 966-967,

1957.

F - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical  
- chem. - desc. treatm. - apomor. - disul. A-2296.

Alcoholism may be cured by force, by taking the patient's liberty and forcing him to abstain, which is not advisable. Another method is apomorphine, causing nausea when paired with alcohol, creating a conditioned reflex. The three experimental elements are: injection, alcohol, nausea. The combination of these by artificial means will become a behavior by laborious repetition. The third method mentioned is antabuse. A tablet is taken daily in the morning. When the patient drinks alcohol, he becomes extremely red in the face, he feels hot and his pulse accelerates to 120-130. Respiration becomes difficult, he becomes dizzy and vomits. After several sessions, he will dislike alcohol, but it is insisted that he continue drinking it. This will create a profound disgust. Disulfiram is being experimented with. The patient is hospitalized for at least two weeks, and carefully examined. He must be sober in order to be treated. 1 gram is given to him daily in the morning for 3 days, then 0.75 g. and 0.50 g., diminishing to 0.20 g., according to his reactions. At lunch he is given a quarter litre of wine. The reactions become more and more intense, depending on the amount of alcohol. The whole body becomes red, breathing is rapid. When the patient begins to dislike the wine, he is sent home with 15 tablets to be taken daily, thus continuing the treatment, after which he must present himself for examination. More tablets are given to him during several months. 15 alcoholics are being treated, and all of them return punctually and regularly.

- 260 Revusky, S.

SOME LABORATORY PARADIGMS FOR CHEMICAL AVERSION  
TREATMENT OF ALCOHOLISM.

Journal of Behavior Therapy and Experimental Psychiatry,  
4: 15-17,

1973.

E - gen. - gen. disc. - alcoh. - classical - chem.

B-3139.

From an examination of extensive literature on chemical aversion therapy with animals, the author presents suggestions which might lead to an improvement in this type of treatment for alcoholism. In the work conducted with animals, it was found that lithium produced more aversions at low doses than either apomorphine or emetine. Lithium has been found to be reasonably safe in the

treatment of mania and if administered intermittently, would be even safer. From the animal studies, it appears that the patient should actually drink the alcohol during his treatment sessions instead of just smelling or tasting it. Of course, only a small amount should be consumed. There is also evidence to suggest that consumption is preferable before the onset of the feelings of sickness rather than simultaneously with these feelings. It was also found that if several substances were consumed prior to the induction of sickness, the degree of aversion to each substance was weakened. This would seem to be the case even when the different substances were all alcoholic. It appears that the best results would be obtained when only one substance is consumed sometime before the onset of the feelings of sickness.

- 261 Rolleston, J.D.  
 THE FOLK-LORE OF ALCOHOLISM.  
 British Journal of Inebriety, 39(1): 30-36, 1941.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - desc.  
 treatm. A-2213.

The author discusses the nomenclature, phraseology, superstitions, and remedies used in the past in regards to alcoholism. In the section on animal remedies, references are provided to the crude attempts, throughout the ages, to create an aversion to alcohol in heavy drinkers by "the insertion of foreign bodies into the drunk - ard's wine or beer."

- 262 Rubenstein, C.  
 THE TREATMENT OF MORPHINE ADDICTION IN TUBERCULOSIS  
 BY PAVLOV'S CONDITIONING METHOD.  
 American Review of Tuberculosis, 24: 682-685, 1931.  
 E - gen. - case disc. - pat. - few ss. - female - male - drug  
 addict. - abst. - classical - indiv. - desc. treatm. - disc. probl.  
 pat. - goal establis. A-2364.

The author presents 2 case descriptions of tuberculosis patients being treated for morphine addiction with conditioned-reflex therapy. The patients' diagnoses, family history, personal history, and neurological findings are included. During treatment, the male massaged the dorsal surface of the forearm for one minute after each hypodermic injection. With the woman, a tuning-fork was used as the conditioned stimulus. With the use of these conditioned stimuli, the amount of morphine administered over the weeks was

diminished. After 4 weeks and after 10 days, both patients were receiving sterile water. "This form of treatment (was) safe and rapid, and (did) not, in our experience, provoke the usual withdrawal symptoms."

## 263 Rubenstein, C.

## THE TREATMENT OF MORPHINE ADDICTION IN TUBERCULOSIS BY PAVLOV'S CONDITIONING METHOD.

In: Franks, C.M., ed. Conditioning Techniques in Clinical Practice and Research. New York: Springer Publishing Company, Inc., pp. 202-205, 1964.

E - gen. - case disc. - pat. - few ss. - female - male - drug addict. - abst. - classical - indiv. - desc. treatm. - disc. probl. pat. - goal establis. A-2329.

The author treated different aspects of the varied symptom-complex associated with pulmonary tuberculosis such as depression, poor appetite, nervous indigestion, headaches, insomnia, and excessive perspiration with Pavlov's conditioning method. This paper consists of case descriptions of 2 pulmonary cases treated for their addiction to morphine. In both cases, the conditioning method "was rapid and effective, and did not produce the so called withdrawal symptoms." The man and woman were both 38 years of age. The man was single and had no occupation while the woman was married and a housewife. At the start of treatment, in a sanatorium, the man was receiving 0.5 grams of morphine each half-hour to a total of 8.5 grams per day while the woman was getting 4 injections of 0.5 grams of morphine daily. During treatment, the injections these 2 people received were paired with a massage of the forearm, with the man, and the sound of a tuning fork with the woman. Gradually the amount of morphine administered were decreased and finally replaced by physiological salt hypodermics. After 6 weeks, all injections were discontinued with the man and after 10 days, all morphine hypodermics were replaced by sterile water with the woman.

## 264 Ruck, F.

ALKOHOLENTZIEHUNGSKUR MIT HILFE EINES BEDINGTEN REFLEXES (APOMORPHINENTZIEHUNGSKUR). [Alcohol detoxication treatment with the help of a conditioned reflex. (Apomorphine treatment).]

Psychiatrie, Neurologie, und Medizinische Psychologie, 8: 88-92, 1956.



G - gen. - clin. study - pat. - more ss. - female - male - alcohol. - abst. - chem. - adjuv. - indiv. - desc. treatm. - disc. pharm. - goal establis. - c.r., 65 - f.p., ly. - apomor. A-2087.

The author briefly describes the Curethyl and Antabuse methods of treating alcoholism and rejects them both. The method supported by the author was with Apomorphine. The drug and its effects are described. Its value is in producing a conditioned reflex. The ways in which a reflex is conditioned and Pavlov's experiments are then described. When the patient arrived at the hospital, he received a thorough examination to ensure that no diseases, which would endanger his life, were present. During the first few days, the dosage was small and was later increased when a certain immunity to it was achieved. Only two sessions a week were held. It was felt that this was ample and that it gave the patient enough time to prepare himself mentally for the next session. The sessions were held from 10 to 11 A.M. and lasted no longer than one hour. Afterwards a two hour rest period followed. The effect of the drug would be felt within 15 minutes at which point the alcoholic would receive his favorite drink. He would be encouraged to smell and taste it continuously. The goal was reached when the taste alone prompted feeling of nausea and vomiting. Usually 10 to 12 sessions were needed. The article also states that the conditioned reflex would disappear within 3 or 4 weeks if reinforcement sessions were not held. It suggests that intensive psycho-therapy sessions should also be held. The patient should also be encouraged to move out of his old environment. Of the patients treated with apomorphine (the exact number was not given), 50 percent remained off alcohol for up to 2 years.

265 Sacerdoti, G.

PRIMI RILIEVI SUL TRATTAMENTO DELL'ALCOOLISMO CRONICO SECONDO FELDMANN. [First observations on treatment of chronic alcoholism according to Feldmann.]

Cervello, 27: 383-391,

1951.

I - gen. - review - alcohol. - abst. - classical - chem. - desc. treatm. - apomor.

A-2064.

The author discusses the conditioned-reflex and disulfiram treatments for alcoholism. He then describes the treatment of his patients using Feldmann's method with apomorphine. The Manson Alcadd test, for evaluating and identifying personality types, was given before and after treatment. It was found that excessive emotionality had decreased in these patients from 80 percent to 40 percent. Forty patients were treated but time had not elapsed long

enough for a good follow-up evaluation. However, the results did look good.

266 Salter, C. E.

THE MEDICAL SERVICES AVAILABLE FOR ALCOHOLICS.

Journal of Alcoholism, 4(4): 258-265, 1969.

E - gen. - gen. disc. - out-pat. - pat. - alcoh. - classical -  
operant - chem. - electro. - hypn. (gen.) - apomor. -  
emetine

B-3209.

The author briefly discusses the different approaches to the treatment of alcoholism. These approaches include the use of disulfuram, hypnosis, "apomorphine- and emetine-type conditioning", and group therapy. The main discussion is intended to answer the question: "How far are we in fact managing to reach the 'ideal' services---in Great Britain today?" In his attempt, he outlines the official policy of the D. H. S. S. as presented in the Ministry of Health Circulars. Recommendations for the establishment of special units (designed to facilitate group therapy) to treat alcoholics, the provision of out-patient facilities, which may be able to provide as good service as in-patient facilities, and the need for more after care hostels were made. However, no further expansion has taken place since mid-1956. In the brief discussion on the conditioning techniques for treating alcoholism, Dent's use of apomorphine is mentioned. The use of electric shock is also reported "to inhibit the habit of drinking." This type of treatment mainly involves a close one-to-one relationship with the patient. The author states that it is essential to provide social support, paramedical services and the opportunity to use A.A. to obtain the best results.

267 Sanderson, R. E., Campbell, D., and Laverty, S. G.

AN INVESTIGATION OF A NEW AVERSIVE CONDITIONING  
TREATMENT FOR ALCOHOLISM.

Quarterly Journal of Studies on Alcohol, 24: 261-275, 1963.

E - res. - clin. study - pat. - more ss. - female - male - alcoh. -  
abst. - classical - chem. - indiv. - desc. side-effects - desc.  
treatm. - disc. generaliz. - disc. theo. treatm. - goal establis. -  
succinyl.

A-1957.

A preliminary report is presented of succinylcholine-induced aversive conditioning treatment for alcoholism. The authors discuss the failure of emetic drugs to establish true conditioned-reflex

behavior. With the administration of succinylcholine, a traumatic unconditioned stimulus can be initiated having a predictable onset, a predictable course of action, and being relatively free of side effects. Because the continuation of respiration is a basic need, the temporary inability to breathe, along with the inability to communicate this distress, must be a terrifying experience. Each patient is placed on a stretcher and fitted with electrodes which record the galvanic skin response, heart function, respiration, and muscle tension. After the subject repeatedly held a bottle of his favorite beverage, looked at, smelled and tasted the drink, 20 mg. of succinylcholine was administered through an intravenous drip apparatus. At the onset of apnea, the experimenter put a few drops into the subject's mouth. Apnea lasted for periods varying between 63 and 150 seconds. Nearly all the subjects were convinced that they were dying during the experience. Fifteen hospitalized alcoholic patients acted as subjects with all showing marked aversion to alcohol after the treatment. A brief history of each patient is presented. Some subjects even became ill while handling antifreeze, pouring lighter fluid, or watching beer commercials. Some of the subjects relapsed and resumed drinking and possible explanations for these particular cases of failure are given. With this treatment, there appeared to be a generalization of effects as some subjects found that other alcoholic beverages than their favorites could induce uncomfortableness as well. Although there is doubt as to which aversive stimulus the subjects responded, the method does appear sufficiently promising to merit further investigation.

268 Sansoy, O. M.

EVALUATION OF METRONIDAZOLE IN THE TREATMENT OF ALCOHOLISM. A COMPREHENSIVE THREE-YEAR STUDY COMPRISING 60 CASES.

Rocky Mountain Medical Journal, 67: 43-47, 1970.  
 E - res. - clin. study - pat. - more ss. - female - male - alcohol. -  
 abst. - chem. - desc. side-effects - desc. treatm. - goal establis.  
 - c. r. , 10 - metroni. B-3228.

The author carried out a study to determine the long-term effects of Metronidazole in the treatment of alcoholics. Fifty-five males and 5 women, who had been suffering from chronic alcoholism of long duration, were treated with the drug for a period of one to six months and underwent periodic alcohol tolerance tests. The author found that it was imperative that patients receive a large amount of the drug (250 mgm. /day) for the initial few weeks and

then gradually tapered to one or two tablets a day. Thirty-one patients experienced no beneficial effects from this drug. No aversion to alcohol nor any reduction in craving for alcohol developed. Their alcoholic consumption remained unchanged. Partial aversion and diminished desire for alcohol were demonstrated in 21 patients. These effects usually started 7 to 14 days after the start of treatment. However, after the second month, craving and tolerance to alcohol returned. True aversion and loss of desire appeared in only eight patients. These effects lasted only as long as the patients continued to take their tablets. Side-effects to the administration of Metronidazole comprised of nausea, flatulence, diarrhea, headaches, and change in libido and pollakiuria. A reduction in dose was effective in diminishing these effects. Metronidazole-alcohol interactions produced disulfiram-like reaction in varying degrees in the majority of patients. The drug has anti-depressant-like properties and the patients successfully treated experienced euphoria, cessation of insomnia, improved appetite, and feelings of well-being. Metronidazole is a relatively safe drug for long-term administration. Observations of changes in the cardiovascular, hepatic, renal and hemopoietic systems, and in the electrolyte balance due to Metronidazole are reported.

- 269 Schaefer, H. H., Sobell, M. B., and Mills, K. C.  
SOME SOBERING DATA ON THE USE OF SELF-CONFRONTATION  
WITH ALCOHOLICS.

Behavior Therapy, 2: 28-39, 1971.  
E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
classical - vis. - verbal - group - desc. treatm. - goal n. establis.  
- c. r., 10 - f. p., 3m. - r. r., 45 - d. r., 45 B-3140.

Self-confrontation was tried, using videotape playbacks of the alcoholics' own drunken comportment during several drinking sessions, in an attempt to reduce the amount of their drinking. The basis for this treatment was that the alcoholic was unaware of his own behavior while intoxicated and that his reactions to his objectionable behavior would be similar to those who encounter his drinking episodes. Bar facilities and a variety of alcoholic beverages were available in a room of a hospital. Volunteer chronic alcoholics participated in groups of 4 in 5 drinking sessions, each of 4-hour duration on alternate days. The patients were visually and aurally recorded as they drank up to 16 ounces of the beverage of their choice. There were 4 experimental conditions. On days after the drinking sessions, Group I (13 patients) received in private 30 minutes of video playback of selected portions of their behavior. Group II (12 patients) received 5 minutes of the same, Group III (10 patients) were allowed to



drink but received no feedback, and Group IV (16 patients) were hospitalized patients not drinking or receiving feedback. During the first, second, and last sessions, the number of ounces consumed, kind of drink, number of sips per drink, time spent to consume a drink, and the time between each sip were recorded. It was found that self-confrontation of their drunken state was aversive as only 11 of the 26 original patients in the first two groups completed the final session. The data collected for the remaining patients as to their drinking behavior did not differ between groups or from the first to last sessions. It was found that there was a tendency for a higher percentage of treated group members (Group I & Group II) to resume drinking during the first 6 weeks of follow-up. It would seem that this treatment is stressful leading to earlier relapse on the part of the alcoholics.

- 270 Schaefer, H. H., Sobell, M. B., and Sobell, L. C.  
 TWELVE MONTH FOLLOW-UP OF HOSPITALIZED ALCOHOLICS  
 GIVEN SELF-CONFRONTATION EXPERIENCES BY VIDEOTAPE.  
 Behavior Therapy, 3: 283-285, 1972.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcoh. -  
 abst. - classical - vis. - verbal - group - goal n. establis. -  
 c. r., 25 - f. p., 9m. - r. r., 45 B-3141.

This report presents the results of a 12 month follow-up study of hospitalized alcoholics who were treated with videotaped self-confrontation experiences. Fifty-two male alcoholics were given either 30 minute, 5 minute or no playback of their individual drunken state during several alcoholic drinking sessions, or lastly, the standard hospital treatment. In a previous report, the only difference between the groups of patients was the significantly fewer subjects, exposed to the subsequent video confrontations, who completed the five sessions compared to the controls. During the 12 months following discharge from hospital, the patients were repeatedly contacted and at least one other person with knowledge of each patient was interviewed. The results, after the 12 month follow-up are presented in a table. As the previous results had shown, there was no significant difference between any of the groups or between the experimental, as compared to the combined control subjects. The trend towards a higher degree of drunkenness among the experimental subjects, as previously noted, was found to be not significant. It was also apparent in the later study that more of the experimental patients availed themselves to other therapeutic aids or agencies.



- 271 Schaefer, H. H.  
 TWELVE-MONTH FOLLOW-UP OF BEHAVIORALLY TRAINED  
 EX-ALCOHOLIC SOCIAL DRINKERS.  
 Behavior Therapy, 3: 286-289, 1972.  
 E - res. - clin. study - pat. - more ss. - male - alcoh. - mod. -  
 classical - electro. - group - goal establis. - c. r. , 75 -  
 f. p. , ly. B-3747.

Thirteen hospitalized male alcoholics underwent experimental drinking sessions in an especially equipped bar in which they "could avoid shock by drinking like a typical social drinker but received painful electric fingershock, ---, whenever they behaved like alcoholics." Four of the subjects drank properly from the start and the others learned the proper behaviors over a period of 12 to 14 sessions. A control group of 13 equivalent patients who did not receive training in social drinking skills was used. After treatment, a social worker interviewed all the subjects and those people close to them for a period of 12 months. Measures used to evaluate the subjects were their degree of functioning in socially acceptable ways, ingestion of less than 6 ounces of 42% alcohol on a given day and less than 10 ounces of alcohol on any 2 consecutive days. Seven of 9 experimental subjects who could be located and were not in jail were either abstinent or drank in socially acceptable ways. This compared with only 2 of 8 subjects in the control group. The difference was statistically significant. The author feels this result should not be unexpected for, "like all skills, drinking in a socially acceptable manner should be trainable as long as relevant behavioral parameters for such behavior are known."

- 272 Schiller, O. , and Solms, W.  
 NEUE METHODEN IN DER BEHANDLUNG DES CHRONISCHEN  
 ALKOHOLISMUS. [ New methods in the treatment of chronic  
 alcoholism.]  
 Wiener Klinische Wochenschrift, 61: 536-539, 1949.  
 G - gen. - gen. disc. - alcoh. - abst. - classical - chem. - adjuv.  
 - desc. treatm. - apomor. - disul. - emetine A-2251.

The numbers of alcoholics are constantly increasing, thus their treatment is an important problem. Several drugs have been suggested, but in the first place it is necessary to create a conditioned reflex against alcohol. Galant, Slutchevski, Fricken, and Feldmann discuss apomorphine treatments. Voegtlin, Markovnik, and Ichok use emetine and report 30 to 55% relapses and 0.15% deaths. Edlin, Johnson, Hletko, and Heilbrunn create a conditioned reflex in 6 to 8 sessions, using ipeca. Curethyl and antabuse are now also

being used. The chemical formula for the latter is given. Antabuse reacts with alcohol, as has been described by Hald, Jacobson, and Larsen. The patient has been administered antabuse, and then drinks 40 cc cognac (16cc ethylalcohol). The reactions, lasting about 2 hours, are described in detail. These symptoms occur each time the patient drinks alcohol, if he takes antabuse regularly. The doses may be diminished later. A patient rarely tries to continue drinking, which may lead to health complications. A large number of patients remain abstinent and adjust well to society. A psychotherapy accompanying the treatment is very necessary. In this clinic, the patient is first thoroughly examined. Then for 6 days, 2 tablets (1.0 g.) antabuse are given daily. The patient must then drink 40 cc cognac or other alcohol. The dose must be carefully established for each patient. The reaction follows and it is explained to the patient that this will always occur after drinking alcohol. The patient is dismissed from the clinic, but must report every 14 days for examination. Success is much more difficult to obtain without the use of psychotherapy.

273 Seager, C. P.

AVERSION TREATMENT IN PSYCHIATRY.

Nursing Times, 61: 423-424,

1965.

E - gen. - gen. disc. - alcohol. - abst. - classical - chem. -  
electro. - disc. theo. treatm.

B-3218.

In the past few years, a theory had developed that many psychiatric symptoms are maladaptive responses learned under special circumstances. The two broad classes of such behavior are avoidance responses which surround fears and addictive behaviors which provide some satisfaction for the person. "Aversion treatment links the abnormal behavior pattern with an unpleasant situation - either vomiting or electric shocks." The aversive treatment of alcoholism, with the use of apomorphine, is briefly discussed. One of the practical difficulties of this treatment is the inability to determine exactly the onset of the drug's effects. Because of this, alcohol may be given to the patient too soon or too late for the most satisfactory conditioning to occur. An alternate method is through the use of electric shock as the painful stimulus. A difficulty with this approach is the fact that vomiting is not caused so that the alcohol the patient drinks is absorbed. This can reduce the anxiety that has built up in the patient. As the patient puts his favorite beverage to his lips, he is given a shock. This is continued, several times a day, until the patient finds the situation intolerable. He should not be allowed to drink liquor during this period without receiving a shock. If this occurs, the patient may begin to dis-

criminate between the treatment sessions and other times. Similar treatment for persons having sexually abnormal behaviors is discussed. Considering the moral issue of this type of treatment, it is stated that aversion treatments are provided only with the patient's participation and consent. In addition, the therapists must consider the overall needs of the patient and determine whether the benefits outweigh the discomfort and pain experienced. The therapist's motives must be determined. Does it have to do with punishing disliked groups of people, such as those whose morals are different or those who respond poorly to treatment? All those people involved in this type of treatment should make their own decisions on this matter. Especially, since this treatment is still largely experimental.

- 274 Segal, B.M., and Khanlarian, G.M.  
 OPYT LECHENIYA ALKOGOLIZMA VNUTRIVENNYMI  
 VLIVANIYAMI TIOSUL'FATA NATRIYA. [Attempt to treat  
 alcoholism with intravenous infusions of sodium thiosulfate.]  
 Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 57:  
 1242-1247, 1957.  
 R - gen. - gen. disc. - out-pat. - pat. - more ss. - alcoh. - abst.  
 - classical - chem. - desc. treatm. - goal establis. - c.r., 10 -  
 f.p., 9m. A-2072.

Seventy-eight patients who suffered severe manifestations of alcoholism were treated with intravenous injections of 15 to 20 ml. of a 30 percent solution of sodium thiosulfate. Hospitalized patients received 7 to 10 daily injections while out-patients received twice weekly injections. Three or 4 injections were given after this at 10 day intervals. Alcohol was given several times during this treatment. A reaction occurred in 46 patients which produced nausea and other emetic symptoms. A strong conditioned reflex to all alcoholic beverages was established. Of the 78 patients, 14 relapsed within 7 months, 6 remained abstinent for over 7 months, and 41 patients who had developed conditioned reflexes had to undergo reinforcement sessions after 4 to 5 months. The advantages of using sodium thiosulfate is that it has no detrimental effect of patients suffering from various diseases and that it can be combined with other medication.

## 275 Segal, B. M.

NOVYI METOD KOMBINIROVANNOI PROTIVOALKOGOL'NOI  
TERAPII. [A new method of combined antialcohol therapy.]

Zhurnal Nevropatologii i Psikhatrii imeni S. S. Korsakova, 59:  
680-684, 1959.

R - gen. - gen. disc. - out-pat. - more ss. - alcohol. - abst. -  
classical - chem. - adjuv. - desc. treatm. - goal establis. - f. p.,  
3m. - d. r., 8 - apomor. A-2069.

Sixty-seven alcoholics received injections of dimercaprol followed by injections of .1 to .3 ml. of one percent solution of apomorphine after a period of 15 minutes. Alcohol was given just before vomiting until stable conditioned reflexes were created. Only 10 percent of the patients dropped out while one third of the patients treated with apomorphine dropped out because of persistent craving for alcohol. Less apomorphine was used with the former group, as well. An average abstinence of 4 months usually followed 7 to 10 treatment sessions. This treatment is recommended for out-patients in whom persistent craving could lead to relapses. This type of treatment can diminish an alcoholic's physical craving for alcohol but not his psychological one.

## 276 Serebo, B.

BEHAVIOUR THERAPY. A PROGRAMMED, AUTOMATED,  
DESENSITIZATION PROCEDURE.

Medical Proceedings, 14: 254-256,

1968.

E - gen. - gen. disc. - alcohol. - abst. - classical - electro. -  
desc. treatm. - disc. theo. treatm.

B-3238.

The author outlines what had been done in the way of behavior therapy for alcoholism as well as describes the desensitization procedure in behavior therapy. The procedure consisted of the verbalized presentation, the introduction of the CS and the application of the UCS. The success of this type of treatment depends on the skill of the therapist. The optimum interval between the CS and the UCS is 0.5 seconds, and, not only must the therapist present the verbal presentation, he must control the timing of the UCS, or shock. In addition, there is also great difficulty in accurately repeating the desensitization procedure from one session to another. The author suggests using a tape recorder and a tape, on which the desensitization procedure suited to the particular patient is found. This would be similar to the use of the tape recorder in initiating hypnosis. The presentation can then be repeated as many times as desired and a pulse can be placed in the tape to indicate the onset of the CS and the UCS. Using this technique to



treat alcoholism, the verbalized output was passed through head phones to the patient while the pulse output set in operating the electro-mechanical device delivering a shock to the patient. There has also been criticism that behavior therapy was too dependent on interpersonal relationships developed through treatment. By having one person record the tape and having another therapist in the room with the patient during a treatment session, the establishment of interpersonal relationships would not be facilitated.

## 277 Sereiskii, M. Y.

[Treatment of chronic alcoholism with thiuram.]

Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakova, 52(4):  
51-57, 1952.  
R - res. - clin. study - pat. - more ss. - female - male - alcoh. -  
abst. - classical - chem. - desc. side-effects - desc. treatm. -  
goal establis. - c.r., 35 - f.p., 3m. - disul. A-2075.

Forty patients, 18 men and 22 women, received conditioned-reflex treatment for alcoholism. After detoxication and a physical examination, the patients, received 1 g. of disulfiram on the first day and the .06 g. of the drug per day. On the third and fourth days, the patients drank 40 to 100 c.c. of alcohol for women and 150 to 300 c.c. of alcohol for men two to three hours after disulfiram was administered. Treatment was carried out each day or every other day for between 4 and 16 reactions with the men and between 6 and 8 reactions in the women until a conditioned reflex was established. The disulfiram-alcohol reaction experienced by the patients is described in detail. The amount of alcohol required to cause a reaction greatly varied among individuals and from day to day. Mild reactions were followed by quiet, healthy sleep while severe reactions were followed by a stuporlike sleep. Reactions were also much more severe in the men than the women. Eight of the men remained abstinent for 4 to 6 months while 4 others drank less than before. Eight of the women remained abstinent for this period of time and another 3 drank less. Better results were achieved in those patients who responded to psychotherapy and were not psychologically deteriorated.

## 278 Shadel, C.A.

AVERSION TREATMENT OF ALCOHOL ADDICTION.

Quarterly Journal of Studies on Alcohol, 5: 216-228, 1944.  
E - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
adjuv. - desc. treatm. - goal establis. - emetine A-1958.



Nonmedical adjuvant treatment at the Shadel Sanitarium where alcoholism is treated using the conditioned-reflex method, is discussed. Because of the greater success experienced by this institution over others which used the same procedure, it was felt that these other phases of treatment were important. A non-professional member of the staff, a former patient, carries out the preliminary interviews. The presence of a member of the new patient's family is encouraged. His desire to stop drinking and his willingness to cooperate is determined. If there is little interest shown, the patient is discharged. The truth as to what to expect during treatment is always given. The treatment is administered by a trained technician who has observed and participated in many conditioning sessions. The critical factor is determining the exact moment the emetine nausea will begin and to present the drink of liquor at that time. If this fails to happen, the conditioning will be unsatisfactory. Four to five treatments usually constitute the initial series which increase progressively in severity. All the patients are introduced to each other and encouragement and confidence is manifested from conversations with those undertaking the initial sessions and those returning for reinforcement sessions. Each patient learns that abstinence must be permanent and total, and that in any drinking situation, he must stop and think about the consequences of taking his first drink. An effort is made to have a job ready for each patient who leaves the institution. Field men are employed who visit former patients reminding them of their reinforcement session dates and helping these people with any personal difficulties. If it appears that aversion to alcohol is decreasing, it is suggested to the patient that he return and undergo reinforcement sessions.

- 279 Shanahan, W. M., and Hornick, E. J.  
 AVERSION TREATMENT OF ALCOHOLISM.  
 Hawaii Medical Journal, 6: 19-21, 1946.  
 E - gen. - clin. study - pat. - more ss. - female - male - alcohol -  
 abst. - classical - chem. - adjuv. - desc. side-effects - desc.  
 treatm. - disc. contraind. - disc. theo. addict. - goal establis. -  
 c. r., 65 - r. r., 25 - d. r., 15 - emetine - pilocar. -  
 ephedrine A-2049.

The authors by means of describing one Hawaiian patient and his treatment for alcoholism, discuss conditioned reflex treatment. All other approaches to treatment and the use of their curative substances yield no better than 20 to 30 percent effectiveness. In aversion treatment, "the repeated association of these two stimuli, - alcohol and drugs - under appropriate circumstances, will result finally in the ability of the conditioned stimulus (liquor) to produce

the symptom complex formerly brought about by the unconditioned stimulus (drugs). " Over 1500 patients have received this treatment and from the table which shows the abstinence rate for each six month period after treatment, 40.2 percent were still abstinent after 5 years following treatment. "The financially indigent, the uncooperative, the inadequate, the psychotic, and the deteriorated have a poor prognosis", as do some others. The roles and effects of the drugs administered, emetine, pilocarpine and ephedrine, are mentioned. The procedure followed in creating an aversion to alcohol is outlined. The patient, described in this article, received six treatments in which nausea and vomiting was closely paired with the sight, smell, and taste of liquor. Returning monthly for reinforcement sessions, he had not drunk in nine months. The authors treated 24 patients in this way. Four did not complete the series. Of the rest, 70% remained abstinent. Complications include "mild emetine poisoning, drug induced initative cystitis and localized inflammation and myositis."

- 280 Sherfey, M. J., and Diethelm, O.  
 EVALUATION OF DRUGS IN THE TREATMENT OF ALCOHOLISM.  
 Research Publications. Association for Research in Nervous and  
 Mental Disease, 31: 287-294, 1953.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 side-effects - desc. treatm. - disc. contraind. - disc. theo.  
 addict. - disc. theo. treatm. - emetine - pilocar. -  
 ephedrine A-2207.

The authors categorize alcoholics into the following 3 groups: the heavy social drinker, the excessive drinker, and the chronic alcoholic, and defines each of these groups. While the latter group are not amenable to medical advice, the 2 former groups are, if they realize the importance of limiting their drinking. Drug therapy is of value in treating chronic alcoholics. By preventing them from drinking, they can be more successfully treated through psychotherapy and through adjustments to their interpersonal relationships. It has been concluded that there is no specific psychopathologic reaction or a special personality type which is etiologically significant in alcoholism. "Only after careful study of individual cases will it be possible to arrive at the essential indications and contraindications of treatment by drugs." Adrenocorticotopic hormone was considered to be effective in the treatment of delirium tremens, alcoholic hallucinosis, Korsakoff's psychosis, and in acute alcoholic intoxication. The rationale for its use followed the theories concerning pituitary-adrenal dysfunction in other physical stress situations. However, the theories advanced in regards to

alcoholism does not fit all the facts. Antabuse, when taken, interacts with alcohol to cause an unpleasant reaction which could lead to death. The dosage, the drug's side-effects, and its physical contraindications are discussed. The fear of a drastic reaction to the interaction of this drug and alcohol keeps the alcoholic from drinking alcoholic beverages. The hypodermic administration of emetine HCl and pilocarpin HCl produces nausea, vomiting, and sweating. While in this state, the alcoholic is made to smell and taste different alcoholic beverages so that this uncomfortable state becomes associated with alcohol. Each treatment session lasts about 20 minutes and is repeated daily. Patients suffering from peptic ulcers, coronary and myocardial disease, active tuberculosis, hernia and severe psychopathological maladjustments should be excluded from this type of treatment. Nutritional therapy, based on the belief that the appetite for alcohol might be due to biochemical deficiencies, possibly related to the 13 vitamins, is discussed. The authors also discuss their research into the relationship of emotions in alcoholics and biochemical changes in these people.

## 281 Shirlaw, L. M.

## AVERSION THERAPY.

British Medical Journal, 1(5384): 701,

1964.

E - lett. ed. - gen. disc. - alcohol. - abst. - classical - chem. -  
disc. theo. treatm. - apomor.

A-2005.

The writer of this letter feels that it is exasperating to read that the treatment of alcoholics with apomorphine is referred to as aversion therapy. It was the opinion of the late Dr. J. Y. Dent, the originator of the modern version of this treatment, that apomorphine had a direct action on the medulla. Aversion had no part in the process. This treatment for alcoholism is very safe and Dent had a cure rate of 75 percent of over 1,000 cases which he treated. Dent reported only one death and that was a patient known to have heart disease. The writer, after 26 years of general practice and treating some alcoholics with apomorphine, feels that allergy to apomorphine is infinitely less common than to penicillin, A. T. S., or chlorpromazine.

## 282 Shuval, R., and Krasilowsky, D.

## A STUDY OF HOSPITALIZED MALE ALCOHOLICS.

Israel Annals of Psychiatry and Related Disciplines, 1: 277-292,

1963.

E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -

classical - chem. - indiv. - desc. side-effects - desc. treatm. -  
 disc. contraind. - disc. probl. pat. - disc. pharm. - goal establis.  
 - c. r., 65 - f. p., 3m. - r. r., 35 - cit. cal. carb. A-2029.

Alcoholism in Israel is a comparatively insignificant problem as only 25 Jewish male alcoholics were found during 1961-2. These men were tested and their characteristics are discussed under the following heading: Historical Background, Patients in Alcohol Study, Length of Stay in Israel, Psychological Examination, Significant Rorschach scores, Results of Psychological examination, and Patients not accepted for treatment. Treatment for 15 of the 25 patients consisted of causing an aversive Dipsan-alcohol reaction. Dipsan consists of calcium carbamide plus citric acid. The most effective method was to give each patient 100 mg. of Dipsan in the morning and then an alcoholic drink around 2 1/2 hours later. The reaction appeared within a few minutes of taking the alcoholic drink. A list is provided of the different characteristics of the reactions including: facial flushing, increase in blood pressure, quickened heart rate, headache, vertigo, chills, nausea, and other ill effects. Ten of the patients did not resume drinking up to the completion of the study which seemed to be around three months. Short studies dealing with the Mode of Action of Dipsan, Side Effects, and Contraindications are provided.

- 283 Silverstein, S. J., Nathan, P. E., and Taylor, H. A.  
 BLOOD ALCOHOL LEVEL ESTIMATION AND CONTROLLED  
 DRINKING BY CHRONIC ALCOHOLICS.  
 Behavior Therapy, 5(1): 1-15, 1974.  
 E - res. - clin. study - pat. - few ss. - male. - alcoh. - mod. -  
 operant - pos. reinfor. - group - desc. treatm. - disc. theo.  
 treatm. - goal n. establis. B-3754.

The authors carried out a 36 day study during which they attempted to train 4 chronic alcoholic patients to estimate their own blood alcohol levels (BALs) and to control their drinking using this information. Feedback techniques, social reinforcement and token reinforcement were used. Baseline studies were carried out before and after the estimation training and the control training. During the three training periods of the first training phase, feedback of subjects actual BALs was provided after each of their own BAL estimates, then intermittently, and then reinforcement was made contingent upon accurate BAL estimation. Previously, reinforcement had been made noncontingently. In the second phase of treatment, the subjects drank in the mornings to attempt to attain the target BAL of 80 mg/100cc. "Subjects were then instructed to



remain as close as possible to (this rate) from 2 p.m. until midnight." During the three training periods of the second training phase, control over their drinking became more and more subject-controlled, the range of positively reinforced BALs was successively narrowed closer and closer to the ultimate target, and all reinforcement and feedback were gradually faded out. Three of the four subjects immediately increased the accuracy of their BAL estimates when BAL feedback was introduced. During the subsequent baseline study, accuracy deteriorated for all subjects after the first day. Nevertheless, post-training estimation accuracy was significantly better than pretraining accuracy. During the baseline period of the control training phase of treatment, "when subjects changed from programmed to ad lib drinking, their BAL estimation accuracy abruptly deteriorated." When reinforcement was provided, drinking was brought closer to the ultimate BAL target. However, the high degree of control disappeared when reinforcement contingencies and feedback were removed. Of the three subjects who completed the study, only one was able to drink in a controlled fashion during the 80 day follow-up period. The authors concluded that it was simply the presence of feedback which affected the subjects' ability to estimate their BAL accurately and that as soon as feedback was not provided, the subjects were lost.

284 Singer, L.

ETUDE DE QUELQUES RESULTATS OBTENUS DANS LE  
TRAITEMENT DE L'ALCOOLISME PAR L'APOMORPHINE.

[Study of some results obtained from the treatment of alcoholism  
with apomorphine.]

Annales Médico-Psychologiques, 108: 276,

1950.

F - gen. - gen. disc. - more ss. - alcoh. - chem. - c.r., 10 -

r,r., 45 - apomor.

A-2261.

The author utilizes the method of G. de Morsier for a treatment program with apomorphine. Of 10 volunteer patients, 1 was termed successful, 3 were partially successful and 5 failed. The method was abandoned and replaced by the use of tetraethylthiuram disulfide.

285 Skipetrov, A.I.

LECHENIYE KHRONICHESKOGO ALKOGOLIZMA APOMORFINOM.

[Treatment of chronic alcoholism with apomorphine.]

Zhurnal Nevropatologii i Psikhiatrii imeni S.S. Korsakova, 53:

395-396,

1953.



R - gen. - gen. disc. - alcohol. - abst. - classical - chem. - desc.  
treatm. - disc. contraind. - apomor. A-2073.

One method used in the treatment of chronic alcoholism was the intravenous injections of a one percent solution of apomorphine. This method, which was based on the conditioned-reflex vomiting reaction to alcohol, was practiced by B.M. Bechterev, F.I. Sluczevski, and I. B. Strielczuk. All the patients were examined for contraindications to this treatment which included: any ulcer diseases, TB, and any heart diseases. Before the apomorphine was administered, a general strengthening approach was provided for the patients. After 6 to 8 days, apomorphine was given in small doses. After 3 or 4 days of this, the dosage was increased or adjusted to suit the individual patients. Care was taken to closely associate the alcohol with the ill feeling produced by the apomorphine. Sessions were held once a day or once every 2 days.

- 286 Sluchevskii, I. F., and Friken, A.A.  
[Apomorphine treatment of chronic alcoholism.]  
Sovetskaia Vrachebnaia Gazeta, 37: 557-561, 1933.  
R - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
desc. treatm. - apomor. A-2211.

Many different treatments for alcoholism have been tried. No one specific or radical treatment has proved to be the most effective. I. P. Pavlov, and B.M. Bechterev used the conditioned reflex method and found a certain amount of success. In this treatment, the drug of choice was apomorphine which was developed by Matissen and Wright in 1869. From the time of its development, apomorphine had been used in psychotherapeutic clinics and used to treat both mental and physical illnesses. Physicians have used it to treat psychopathic and epileptic excitement. In the treatment of alcoholism with apomorphine, the doses of the subcutaneous injected one percent solution of apomorphine hydrochloride ranged from .001 to .003 mg. The pairing of alcohol and the ill effects of apomorphine was only carried out in seven heavy drinkers. The rest of the patients received an injection of apomorphine every ten days early in the morning and then another three hours later. It was interesting that all the patients, without exception, felt a bigger aversion to alcohol after each new injection.

## 287 Smith, J.A.

ALCOHOLISM. CAUSES AND METHODS OF TREATMENT.  
 American Practitioner and Digest of Treatment, 4(7): 1-21, 1953.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 side-effects - desc. treatm. - disc. contraind. - emetine - pilocar.  
 - ephedrine A-2250.

In this six part article, the author discusses the causes of alcoholism and methods of treatment under the following titles: Behavior leading to the diagnosis of chronic alcoholism; Psychotherapy as applied to the chronic alcoholic; Delirium tremens; Antabuse; Other types of treatment; and The treatment of alcoholism in general practice. Discussing aversion therapy, the author states that "this method of treatment depends on the artificial creation of an intolerance to the sight, taste, and smell of alcohol by making the patient ill at the same time that he drinks." To cause this illness, one doctor used "a solution containing emetine (HCl), 50 grains; pilocarpine, 25 grains; ephedrine (SO<sub>4</sub>), 23 grains; and sufficient water to make 40 cc. He then (gave) from 6 to 12 minims of this solution hypodermically and (was) able to produce nausea in 2 to 8 minutes." Another approach mentioned was give the patient "10 to 12 mg. of benzedrine sulfate and 1 mg. of strychnine sulfate---followed by a capsule containing from 60 to 150 mg. of emetine (HCl); this was administered with one to three glasses of tepid water. At the same time, 50 to 150 mg. of emetine (HCl) (was) given hypodermically." With this type of therapy, the patient is treated in circumstances similar to his regular drinking habits. Six or 7 sessions should suffice in producing an aversion but the patient should return at certain intervals of time for reinforcement sessions. Emetine has a time effect on the cardiovascular system so that electrocardiogram readings should be taken and signs of toxicity should be watched. "Cardiovascular or renal abnormality, active tuberculosis, peptic ulcer or cirrhosis contraindicates this method of treatment."

## 288 Smith-Moorhouse, P. M.

HYPNOSIS IN THE TREATMENT OF ALCOHOLISM.  
 British Journal of Addiction, 64: 47-55, 1969.  
 E - gen. - gen. disc. - out-pat. - more.ss. - alcoh. - abst. -  
 classical - hypn. (aver.) - hypn. (gen.) - relax. - combin. - indiv.  
 - group - desc. side-effects - disc. theo. treatm. - goal establis.  
 - c.r., 55 - f.p., 9m. B-3142.

The author outlines his hypnotic approach to the treatment of alcoholism and presents the results of his efforts in dealing with

out-patients. His principles of treatment include: withdrawal of alcohol, treatment of physical complications, psychotherapy, rehabilitation, and follow-up. "Hypnotic suggestions without a complex psychotherapeutic approach to the personality of the patient have no lasting therapeutic results, ---." Direct aversive suggestion under hypnosis may produce severe acute mental conflict which could lead to a return to drinking. Thus, hypnotic suggestions to improve the patient's general health and well-being are undertaken. Such suggestions would be that he should look after his health and that future events can be comfortably faced without drink and that abstinence will be pleasant. Over-dependency is common among alcoholics so that each patient should not be solely treated by one therapist. Aversive techniques are only used as support to help the patient through a difficult period. Self-relaxation was offered to the alcoholics and few of them refused it. The out-patient setting was designed to treat those alcoholics who had minor degrees of personality disturbance and the neurotics. The major problems were loss of self-confidence, immature personalities, and emotional immaturity. Forty-three of 182 out-patient alcoholics chose to receive hypnotherapy as part of their overall therapy. The drop-out rate was high for both the hypnosis cases and all the cases, in general and 37 percent of the cases in both groups were not traceable after treatment. Of the rest, 85 percent of those receiving hypnosis showed some improvement compared with 59 percent of those without hypnosis. Fifty-five percent treated by hypnotherapeutic technique were completely sober, fit and well for a minimum of six months as against 32 percent of all cases. The types of hypnotherapeutic techniques used in those clinical cases did not include routine aversion therapy. It was found that relaxation under hypnosis was found to be beneficial, in itself, as well.

289 Sobell, L. C., and Sobell, M. B.

A SELF-FEEDBACK TECHNIQUE TO MONITOR DRINKING  
BEHAVIOR IN ALCOHOLICS.

Behaviour Research and Therapy, 11: 237-238, 1973.  
E - res. - clin. study - pat. - more ss. - female - male - alcohol.  
- mod. - group - desc. treatm. - goal establis. B-3143.

Four male and 2 female alcoholics attended a behaviorally oriented group therapy session each week. Five of the 6 subjects participated in treatment for a minimum of 5 months. Between sessions, the subjects were instructed to monitor and record their own daily alcohol consumption. The following entries were included:

date, specific type of drink, alcohol percentage of drink, amount of total drink consumed, and the environment in which the drinking occurred. A separate entry was made for each drink and space was provided for the date and the word 'none' for those days in which no alcoholic beverages were consumed. Two subjects never abused alcohol at anytime during treatment, three other subjects remained abstinent or practised controlled drinking for at least 87.5 percent of their total days in treatment, and the last subject was abstinent for the first 3 months of treatment but then went on a long drinking bout. Three immediate values of the self-feedback recording sheets which were used, were: the awareness of the subjects' drinking patterns, the realization and discussion of situations where drinking occurs, and the facilitation of early treatment intervention.

- 290 Sobell, M. B. , and Sobell, L. C.  
INDIVIDUALIZED BEHAVIOUR THERAPY FOR ALCOHOLICS:  
RATIONALE, PROCEDURES, PRELIMINARY RESULTS AND  
APPENDIX.  
 Report: State of California, Department of Mental Hygiene;  
 California Mental Health Research Monograph No. 13,  
 81 pp. , 1972.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcoh. -  
 abst. - mod. - classical - electro. - indiv. - desc. treatm. -  
 disc. theo. treatm. - goal establis. B-3804.

A clinical study was carried out with 70 male volunteer alcoholics using an electric shock aviodance procedure. Statistics describing their educational, demographic, and sociological characteristics are provided. The patients, all Gamma alcoholics, were divided into 2 treatment groups and 2 control groups - the treatment groups differing as to their goal, abstinence or moderate drinking. The treatment facilities consisted of a simulated bar and cocktail lounge and a simulated home environment. Initially, electric shock pain thresholds were obtained and increased, for the experimental sessions, by 120 percent. A variable reinforcement schedule was used. All types of beverages were available for the subjects. Each patient received 17 behavioral treatment sessions during which the non-drinking treatment subjects received shocks for ordering any drinks and the controlled drinking treatment subjects received shocks for any behavior considered inappropriate. Videotapes and tape recordings of the sessions were made. The authors provide a discussion of the results. It was concluded that "male, Gamma alcoholics treated by this method of individualized behavior therapy ---were found to function significantly better for at least a six

month period following discharge than respective control subjects treated by conventional techniques." "Moreover, subjects who clearly met the criteria required by most experts for classification as 'alcoholics' were able to acquire and maintain patterns of controlled drinking for this period of time."

- 291 Sobell, M. B., and Sobell, L. C.  
 ALCOHOLICS TREATED BY INDIVIDUALIZED BEHAVIOR  
 THERAPY: ONE YEAR TREATMENT OUTCOME.  
 Behaviour Research and Therapy, 11: 599-618, 1973.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 abst. - classical - electro. - indiv. - goal establis. B-3246.

Seventy male, gamma alcoholic patients were placed in the following 4 treatment groups: controlled drinker experimental, controlled drinker control, non-drinker experimental, and non-drinker control. Each of the experimental groups were treated using an individual behavioral approach (including electrical aversion) oriented to their respective aims. Both of the control groups received the conventional treatment procedures provided. During the period of 1 year after treatment, the 70 patients were followed and data related to their incarceration, hospitalization, and measures of their daily drinking disposition, their adjustment to interpersonal relationships, the nature of their vocational activities and their residential status and stability were recorded. After 1 year, 85 percent of the controlled drinker experimental subjects and 86.67 percent of the non-drinker experimental subjects were functioning well. These were significantly better than the 31.58 percent and the 26.67 for the corresponding controls. The 20 controlled drinker experimental subjects functioned well for a mean of 35.22 percent of all the days for the corresponding controls. The corresponding means for the non-drinker experimental and control groups were 68.39 percent and 38.48 percent. The differences between the 2 experimental groups and the 2 control groups were significant. Further analyses are presented.

- 292 Sobell, M. B., and Sobell, L. C.  
 INDIVIDUALIZED BEHAVIOR THERAPY FOR ALCOHOLICS.  
 Behavior Therapy, 4: 49-72, 1973.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 abst. - mod. - classical - electro. - indiv. - desc. treatm. -  
 goal establis. B-3144.



The authors carried out a clinical study with 70 male alcoholics. The subjects were split into 2 groups based on the treatment goal: abstinence or controlled drinking. For each of these groups, the patients were included in either an electrical aversion treatment group or a control group. From the 4th to 17th treatment session, the nondrinker treatment group received a 1-second shock for ordering any alcoholic beverage. The controlled treatment group received a 1-second shock for inappropriate drinking behaviors. For all subjects, alcohol was freely available in the first 2 sessions and their drunken manner was recorded on videotape. Education sessions, videotape replay, and videotape contrast were also provided. For the aversion session held for the two treatment groups, a 50 percent reinforcement schedule was used. Both nondrinker and controlled drinker treatment groups drank in order to minimize the number of shocks. Statistics indicating their behaviors during these sessions are provided. After the 6-month follow-up period, there was a significant difference between the functioning of the controlled drinker treatment and control groups. Differences in functioning between the nondrinker treatment and control groups were in the same direction but not statistically significant. Several adjunctive measures of functioning were also taken and tables are provided showing that those alcoholics treated in this manner with individualized behavior therapy functioned significantly better than their matched controls.

293 Solms, H.

ZUR PROBLEMATIK DES WIRKUNGSMECHANISMUS  
 MEDIKAMENTÖSER BEHANDLUNGSMETHODEN BEI  
 CHRONISCHEM ALKOHOLISMUS: DER PSYCHODYNAMISCHE  
 ASPEKT. [On the problem of the mechanism at work in drug treat-  
 ment of chronic alcoholism. The psychodynamic aspect.]  
 Schweizerische Akademie der Medizinischen Wissenschaften,  
 Bulletin, 16: 88-101, 1960.  
 G - gen. - gen. disc. - tables - alcoh. - abst. - classical - chem. -  
 adjuv. - disc. theo. treatm. - apomor. - disul. - emetine A-2291.

The author first explains with the aid of a chart the reasons for alcoholism and the different types of treatments. He then discusses the psychodynamics of aversion treatments with apomorphine or emetine, and the creation of a disgust towards alcohol with disulfiram or antabuse. The mechanism of these drugs is very complex. The biochemical, the clinical, and the psychodynamic aspects are discussed. The latter concerns the understanding of the patient's thoughts and attitudes during the treatment, and his relationship to his family, his friends, and his doctor. A great emphasis is placed

on psychotherapy, without which the treatments with apomorphine would be useless. The mental attitude of the patient must be completely changed in order to obtain success. The main effect of disulfiram lies in the fear of the reaction and its results. The most important aspect is the psychological mechanism of the treatment and constant counselling of the patient. The psychological consequences of the abstinence from alcohol, especially in a disulfiram treatment, may be quite serious, depending on the patient. The removal of alcohol from a patient can be harmful unless a suitable substitution is found, since he takes alcohol to find relief from some serious problems. A table shows the results of various aversion treatments. It is important that the patient agrees to be treated. A psychotherapy which is often underestimated, is absolutely necessary.

- 294 Spevack, M., Pihl, R., and Rowan, T.  
 BEHAVIOR THERAPIES IN THE TREATMENT OF DRUG ABUSE:  
 SOME CASE STUDIES.  
 Psychological Record, 23: 179-184, 1973.  
 E - gen. - clin. study - out-pat. - pat. - few ss. - male - drug  
 addict. - abst. - classical - electro. - syst. desens. -  
 desc. treatm. B-3286.

The authors treated 3 male adolescents who were no longer physiologically addicted to amphetamine but who were still psychologically dependent on it. While in hospital, 2 of the boys "complained that most of their day was spent thinking and remembering how much they wanted amphetamines in general and about the paraphernalia and procedures which were involved in the injection of the methedrine solution." Treatment consisted of electrical aversion therapy in "an attempt to decondition the positive affective response associated" with taking amphetamine. A hierarchy of ritual-related stimuli was developed for each subject on his fingers. Shock was applied 10 to 20 times per session and the voltage was such that each subject felt it was painful. As these stimuli became harder to imagine, the therapist and the subjects began to discuss their drug usage. During these sessions, shock "was delivered contingent on Ss' making favorable statements about methedrine and any ritual-related stimuli." Treatment sessions were reduced from a daily basis to every second week over a period of 3 1/2 or 5 months. Self-reports of frequency of thought and attitudes towards these stimuli were taken before and after treatment. The frequency of thought about these stimuli also dropped. After discharge, 2 of the 3 subjects resumed the injection of amphetamines. However, the average number of injections per week dropped from 17 before treatment to

3 after treatment. The follow-up period lasted 7 months. In addition, a 17 year old boy was treated with systematic desensitization for fears of crowds, darkness, and "acid-rock" music brought about through some bad experiences with LSD and because of LSD flashbacks. The subject was given training for deep muscular relaxation and an hierarchy of the various stimuli was developed. 10 desensitization sessions were conducted followed by 4 more using a second hierarchy related to sleep. Treatment lasted for 2 months. The subject's heart-rate response to darkness and darkness with music was recorded before and after treatment. In both cases, there was a significant reduction in heart-response after treatment. For 12 months following treatment, the subject had no recurrence of his LSD "flashback".

295 Steck, H.

QUELQUES REMARQUES SUR LA PROPHYLAXIE ET LA THERAPEUTIQUE DE L'ALCOOLISME. [Some remarks on the prophylaxis and treatment of alcoholism.]

Schweizerische Medizinische Wochenschrift, 81: 535-537, 1951.  
F - gen. - clin. study - pat. - more ss. - alcoh. - abst. -  
classical - chem. - hypn. (aver.) - combin. - group - desc.  
treatm. - goal establis. - c.r., 35 - apomor. A-2264.

The author first emphasizes the dangers of alcoholism, which is the main enemy of mental health. He explains that moral treatment alone is not efficient enough and mentions the methods used by Feldmann, Jacobson, and Voegtlin. Two tables show the number of patients admitted to the Hospital of Cery for treatment of alcoholism. The method of Voegtlin has been chosen in this clinic, where the patient undergoes treatment for several weeks. A previous period of detoxication and abstinence allows the physical condition of the patient to improve. He is fully aware of the treatment with apomorphine. About one hour after breakfast he receives a few glasses of his favourite drink and immediately afterwards an injection of 1 cc. of a 1% solution of apomorphine. The vomitive effect is soon felt. Every morning for about two weeks this procedure is repeated until a conditioned reflex and a manifest aversion to the alcoholic drink is created. Two to six patients are treated together in a room. The majority are wine addicts, thus wine is used for the treatments. Later, however, the patients treated in this manner become addicted to a stronger type of alcohol. Dr. Feldmann has stated that patients who come willingly succeed faster than those who refuse to be treated. A psychotherapy and close observation after the treatment augment the chances of being cured. Treatment by hypnosis is then described, where

the patient has previously been treated with apomorphine. It is suggested to him during the hypnosis that he drink the same beverage he had consumed in the morning with apomorphine. The same symptoms appear, but nothing happens when he takes a non-alcoholic drink. The advantages of this treatment are discussed, and statistics given. Out of 28 patients, 19 were treated with hypnosis. 6 succeeded, 8 improved socially, 2 relapsed seriously, 1 relapsed but was then treated with antabuse and cured, and 1 died of a hemorrhage. 9 patients were treated without hypnosis; 4 succeeded, 2 improved socially, and 2 relapsed. There is no information on the 9th patient.

296 Steinfeld, G. J.

THE USE OF COVERT SENSITIZATION WITH INSTITUTIONALIZED NARCOTIC ADDICTS.

International Journal of the Addictions, 5(2): 225-232, 1970.  
 E - gen. - gen. disc. - pat. - more ss. - male - drug addict. -  
 abst. - classical - relax. - vis. - verbal - combin. - indiv. -  
 group - desc. treatm. - disc. generaliz. B-3256.

The author presents a description of both individual and group covert sensitization treatment for narcotic addiction. A short review of the literature dealing with behavior modification techniques in the treatment of maladaptive approach and avoidance responses is given. The patients were asked to describe the settings in which they obtained and took heroin. In a state of relaxation, after some relaxation training taught in the manner prescribed by Wolpe and Lazarus (Behavior Therapy Techniques, Oxford: Pergamon Press, 1966), the patients were asked to visualize a scene in which a setting was described which was similar to their own experiences. In this scene, a close association was developed between the taking of the drug and ill feelings, nausea, and vomiting. A second association was developed between the getting rid of the "works" and the feeling of relief. As the feelings of nausea and vomiting had little detrimental effect in some patients, uneasiness was developed in scenes presented to them through the use of their own fears. One of the individually treated patients had a fear of bees and wasps and so these were used as the aversive stimuli paired with the drug taking scene. Some of the patients in the group sessions were not made uncomfortable by the development of ill feelings and vomiting in scenes which were presented. Because of this, a scene was developed such that "you feel as if you're pinned under a herd of rats" which has already torn one person apart and are starting on the person shooting-up with heroin. Relief is experienced as the rats go away as the heroin and the "works" are



thrown away. Results of this treatment were not obtainable and are not given.

- 297 Steinfeld, G.J., Rautio, E.A., Rice, A.H., and Egan, M.J.  
GROUP COVERT SENSITIZATION WITH NARCOTIC ADDICTS  
(FURTHER COMMENTS).

The International Journal of the Addictions, 9(3): 447-464, 1974.  
E - gen. - clin. study - pat. - more ss. - male - drug addict. -  
abst. - classical - relax. - vis. - verbal - group - desc. treatm. -  
goal establis. B-3803.

The authors describe 8 treatment sessions during which relaxation and covert sensitization were provided for 8 men serving jail sentences for drug offenses. Instruction, during these sessions, was presented by way of tape recorder. The relaxation training was given because it was felt to be important in coping with the desire for narcotics. While practice was strongly urged outside of the sessions, little relaxation practice was actually carried out. From the questionnaires completed by the prisoners, an aversive scene and its revisions were created and presented to these men while in a relaxed state. The scene dealt with obtaining heroin and "shooting up", but instead of experiencing relief and comfort, the whole experience was fearful and ugly. Comments about their reactions to these scenes are provided. After the 8 men were discharged from the institution, it was found that only one returned to drug criminal activities. This result indicated that this treatment program could be of considerable value, but further controlled study is required. The authors provide a categorization of the fears expressed by the treatment group members according to whether these fears "were interpersonal, impersonal, or related to 'self'." Also, the questionnaire used to determine the individual's drug related behavior, along with the group's responses, is provided.

- 298 Stojiljković, S.  
CONDITIONED AVERSION TREATMENT OF ALCOHOLICS.  
Quarterly Journal of Studies on Alcohol, 30: 900-904, 1969.  
E - res. - clin. study - out-pat. - more ss. - alcohol. - abst. -  
classical - chem. - group - desc. side-effects - desc. treatm. -  
c. r., 65 - f. p., ly. - r. r., 35 - d. r., 15 B-3145.

Out-patient alcoholics were given conditioned aversion treatment at an institution in Yugoslavia. The basis for this treatment was that



to a great many alcoholics, drinking represented a conditioned habit. The method of treatment is described in which groups of 4 to 6 alcoholics are given doses of .05 gm. of antimonyl potassium tartrate, .75 gm. of powdered ipecacuanha, and 2 gm. of oil-sugar of mint in a glass of water. The doses are sufficient to cause sweating, nausea, salivation, and profuse vomiting after 10 minutes. Before the effects appear, they are given an alcoholic beverage and it is suggested to them that they will vomit. The words of patients recorded in previous sessions and the sound of vomiting are played on a tape recorder. The true cause and effect of this reaction are explained to the patients. Each session lasts 1-2 hours with the patient gulping alcohol several times. In later sessions, the taste and the smell of alcohol is enough to cause vomiting. Ten or twelve treatments are held at a rate of not more than one a week. The doses can be reduced in the later sessions and often a placebo treatment is effective. Stabilization treatments are given 15, 45, 105, and 195 days after the main treatment period. The effects of antimonyl potassium tartrate are described. Over a period of 8 years, 264 alcoholics, who had relapsed after being given other types of treatments, were treated in this way. Of these, 136 patients were abstinent for at least 18 months, 88 patients had relapses soon after the initial treatment, 16 patients could not handle even the smallest amounts of the drug, and 24 left before the end of the initial treatment of their own accord.

299 Stoner, J. W.

AN INVESTIGATION OF DIFFERENCES BETWEEN ALCOHOLICS WHO VOLUNTEER AND DO NOT VOLUNTEER FOR AVERSION THERAPY TREATMENT OF ALCOHOLISM.

Dissertation Abstracts International, 31(8-B): 5009, 1971.  
E - diss. - clin. study - more ss. - alcohol. - abst. - classical B-3226.

This note provides an abstract of a study carried out to investigate the possible differences between alcoholics who volunteer for aversion therapy and those who do not. Previous authors have stated that the cooperation of the patients is crucial to the successful outcome of this type of treatment. Thirty-eight alcoholics were allowed to volunteer for aversion treatment and the two experimental groups consisted of those who did and those who did not. Differences were sought between the groups as to pain tolerance, the rapist prognosis, scores on the MacAndrew Alcoholism scale and their social histories. The data showed no differences. A significant difference was found, however, in pain tolerance between those subjects who remained in treatment and the other groups.

Pain tolerance has been related to many other variables. To the extent that previous studies of aversion therapy have been based on those subjects who remained in treatment, these studies may be biased in favor of using patients more likely to succeed in treatment.

300 Storm, T., and Cutler, R. E.

SYSTEMATIC DESENSITIZATION IN THE TREATMENT OF ALCOHOLICS: AN EXPERIMENTAL TRIAL.

Vancouver; Alcoholism Foundation of British Columbia; 14pp., 1968.

E - res. - clin. study - pat. - more ss. - alcohol. - abst. - classical - relax. - syst. desens. - combin. - disc. theo. addict. - c.r., 55 - f.p., 9m. - d.r., 45

B-3745.

The authors discuss a theoretical model on the etiology of alcoholism based on anxiety and tension within the person. The usefulness of systematic desensitization in the treatment of alcoholism, in relation to this model, was examined. The authors described a study carried out "to provide an experimental trial of systematic desensitization in the treatment of chronic alcoholics in comparison with conventional combination of individual counselling and psychotherapy." Two difficulties encountered in this study were outlined. It was found that with a number of different groups, time would not allow full therapeutic treatment for all the patients. In addition, the drop-out rate across all groups was 62 percent so that the benefits of the different treatments would be more difficult to determine. Secondly, there was no clear measure available to evaluate the level of anxiety before and after treatment. Initially, 50 patients were assigned to a therapeutic group receiving, desensitization treatment, 31 dropped out before the fifth session. Of the 55 alcoholics assigned to the standard clinical treatment, 34 dropped out. The median number of sessions for those patients in the standard clinic group who received at least 5 sessions was 15 and for the desensitization patients, 12. After a minimum of 6 months after treatment, "the rate of success in the treated desensitization group was 79 percent (15 of 19 (contacted)) and in the treated clinic group was 81 percent (17 of 21 (contacted)). However, including the patients who dropped out, the overall success of the study was 73 percent." Using follow-up status and change scores, it was found that "53 percent (8 of 15) patients in the desensitization group were markedly improved, compared to 35 percent (6 of 17) in the clinic group. 67 percent of the former, and 71 percent of the latter were at least somewhat improved." The 2 groups of early drop-outs showed almost identical rates of improvement, 29 percent markedly improved and 60 percent somewhat improved.

## 301 Strel'chuk, I. V.

[ Treatment of alcoholics with antabuse. Preliminary report.]  
Nevropatologiya i Psikhiaetriia, 20: 80-83, 1951.  
R - gen. - gen. disc. - pat. - alcoh. - abst. - classical - chem. -  
adjuv. - desc. side-effects - desc. treatm. - disc. contraind. -  
disc. pharm. - disul. A-2281.

The use of the drug disulfiram has been shown to be a very effective means of treated alcoholism. Disulfiram was first used in the rubber industry where it was noticed that those workers who worked with it were unable to tolerate alcoholic drinks. The drug fitted in with the views of Pavlov who felt that for the treatment of alcoholism, alcohol must be associated with an uncomfortable state. Disulfiram produced the uncomfortable state of nausea and vomiting. The action of disulfiram has been studied since 1949. It has been found that medium doses caused a larger reaction than when using smaller doses but that larger doses were not any more effective than medium doses. When alcohol was given with disulfiram, the patients became out of breath, their faces flushed, their breathing became difficult and speeded up, their pulse increased, and their blood pressure decreased. Some patients experienced nausea, the chills, and vomited. Subsequent doses induced a full aversion to alcohol. The author concludes that this treatment with disulfiram should be carried out in hospital, that the drug is dangerous for older people and can cause certain complications, that it changes both the taste of alcohol and the drunken state of the alcoholic, and that additional treatment, such as psychotherapy, should be provided.

## 302 Strel'chuk, I. V.

[ Further observations on treatment of chronic alcoholism with antabuse (tetraethylthiuram disulfide). ]  
Zhurnal Nevropatologii i Psikhiaetrii imeni S. S. Korsakova, 52(4):  
43-50, 1952.  
R - res. - clin. study - tables - pat. - more ss. - alcoh. - abst. -  
classical - chem. - adjuv. - desc. treatm. - disc. contraind. -  
goal establis. - c. r., 55 - disul. A-2074.

Having obtained more experience, conditioned-reflex treatment for alcoholism, with the use of disulfiram, is undertaken with more care. Both disulfiram and alcohol are given in lower doses (.5g. and 15 to 30 c. c., respectively) and close watch for contraindications is made. Disulfiram is given daily for 3 days and then a reaction day in which alcohol is given. Four days are allowed to pass in which no disulfiram is given and then the cycle is resumed.

Six to 8 cycles are required until a negative conditioned reflex is established. Seventy-two patients, who were unsuccessfully treated previously, underwent this treatment and 40 of them showed improvement. Those who were given adjunctive treatment responded better than those who only received conditioned-reflex therapy.

303 Strel'chuk, I. V.

O NOVYKH SOVREMENNYKH METHODAKH LECHENIYA A BOL'NYKH ALKOGOLIZMON. [New Contemporary methods of treating patients with alcoholism.]

Sovetska Meditsina, 21: 26-33,

1957.

R - gen. - gen. disc. - out-pat. - pat. - abst. - classical  
- chem. - hypn. (aver.) - hypn. (gen.) -adjuv. - desc. treatm. -  
disul. - emetine A-2031.

Glucose, hexamethylenetetramine and vitamins are now used to treat the withdrawal symptoms experienced by alcoholics just beginning to undergo treatment. Out-patients should have at least 10 hours of sleep each day and hospitalized patients should have at least 12 to 15 hours of sleep. Hypnosis can be used to make sure of enough sleep. Patients then receive either emetine or disulfiram to establish a conditioned reflex to alcohol. Again, hypnosis can be used in this regard and often produces a more durable conditioned reflex. A highly individualized method of psychotherapy is then arranged for each patient to work on his attitude towards drinking, life and his environment. Chlorpromazine was found to be very effective in the treatment of alcoholic psychosis.

304 Sulzer, E.S.

19. BEHAVIOR MODIFICATION IN ADULT PSYCHIATRIC PATIENTS.

In: Ullman, L. P., and Krasner, L. eds. Case Studies in Behavior Modification. Holt, Rinehart and Winston, New York, pp. 196 - 200,

1965.

E - gen. - case disc. - out-pat. - few ss. - male - alcohol. - abst. -  
operant - pos. reinfor. - desc. treatm. - disc. probl. pat. - goal  
establis. B-3765.

Case descriptions of an alcoholic and a man who had "a variety of problems including marked difficulty in studying, poor relations with a supervisor on the job, and a belief that he was a poor father to his child" are presented. They both were treated with behavioral modification techniques. With the alcoholic, psychotherapy had been



attempted without success. His job required him to enter taverns and cafes where alcoholic beverages were served and it was in these places, with other people, that he did his drinking. While the aim of treatment was to greatly reduce his drinking, the patient rejected chemical aversion treatment. It was learned from the patient that he was concerned about losing the friendship of 2 men he had known quite a while and were now avoiding his company due to his drinking. With the help of those 2 friends a plan was established in which they would get together with the patient after work at a tavern. While they were allowed to drink alcoholic beverages of their choice they were instructed to leave the patient if he drank any alcohol. The three of them also got together at each others' homes during which the same situation existed. Besides the rewarding company of his friends, the patient also found the bartenders who served him soft drinks and whom he dealt with through work were much more friendly towards him. Shortly after a month following the beginning of treatment, the patient and his family moved to another neighborhood where he was not thought of in disgust because of his previous drinking behavior. With the therapist also expressing approval for his nondrinking behavior, the patient stopped drinking alcohol altogether.

305 Thimann, J.

DISCUSSION OF "THE CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM. VIII. A REVIEW OF SIX YEARS' EXPERIENCE WITH THIS TREATMENT OF 1,526 PATIENTS." Journal of the American Medical Association, 120(4): 270, 1942. E - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical - goal establis. - c. r. , 85 A-2039.

This participant, in a discussion following the presentation of a paper by F. Lemere et al. , (J. A. M. A. 120-1, 1942), treated 37 hospitalized alcoholic using conditioned reflex treatment. Thirty remained totally abstinent for periods of time longer than ever before in their drinking careers. Those patients, whose fees were paid by social agencies and whose personality and attitude would have seemed to be detrimental in any treatment attempt, were the most successfully treated. Possibly, the unpleasant treatment gratified their masochistic traits as well as reduced their feeling of guilt. It was the higher status patients who did not benefit from treatment. There is some question that this treatment might lead to the use of barbiturates and that reinforcement sessions may reduce patient's abhorrence for drinking and new feelings of security increasing the chance of relapse.



## 306 Thimann, J.

## THE CONDITIONED REFLEX AS A TREATMENT FOR ABNORMAL DRINKING. ITS PRINCIPLE, TECHNIC AND SUCCESS.

New England Journal of Medicine, 228(11): 333-335, 1943.

E - gen. - gen. disc. - alcohol. - classical - chem. - disc. theo.

treatm. - goal establis. - apomor. - emetine - pilocar. -

ephedrine

A-2026.

Conditioned reflex treatment is difficult, if not impossible to accomplish, without knowledge of all the peculiar characteristics of this approach. The incomplete results of the first scientific attempt at treating alcoholic patients, carried out by two Russians using apomorphine in 1933, are provided. In subsequent research, it became apparent that the sincere co-operation of the patient was essential for success. After years of research, the right kind of emetic was found in the drug emetine and a careful and skillful technique was developed. For successful treatment, all extraneous auditory, olfactory, and visual stimuli must be eliminated and the conditioned stimuli emphasized. Sessions are given 4 to 7 times on successive days and repeated once after 1, 2, 3, 6, 9, and 12 months during the first year. Adjunctive therapy should be provided in an attempt to eliminate the extrinsic and intrinsic factors that caused or contributed to the drinking. While pilocarpine and ephedrine are added to emetine to counteract the physical reactions to emetine, these drugs have distracting side-effects, as well, so that care should be taken concerning the dosage taken and the length of time, before treatment, that they should be given. The author suggests that patients pay frequent visits to and spend much of their free time in the hospitals after treatment. This close association keeps the patients aware that their drinking problem has not been permanently solved and that he can not take a social drink without fear of relapse. Over a short period of 7 months, 27 of 43 patients, treated in this manner, have remained completely abstinent.

## 307 Thimann, J.

## THE CONDITIONED REFLEX TREATMENT OF ALCOHOLISM.

Rhode Island Medical Journal, 27: 647-650, 1944.

E - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -

adjuv. - desc. side-effects - desc. treatm. - disc. contraind. -

disc. pharm. - disc. theo. treatm. - emetine

A-2043.

Most of the therapeutic methods which have been used to treat alcoholism have brought little success. The author has taken a physiological approach and treats his patients using the conditioned reflex treatment. Experimental conditioning research has shown

that in establishing a reflex, the environment must be controlled to prevent the influence of undesired stimuli, the conditioned stimulus must not only precede but overlap the unconditioned stimulus in point of time, and the conditioned reflex will fade over time if the association of the unconditioned and the conditioned stimuli is discontinued. Several problems exist in using such an approach in the treatment of alcoholism. Alcohol acts as a depressant and it has been found that such effects hamper conditioning. Because of this, the amount of alcohol absorbed and the timing of the conditioning sessions must be closely watched. Emetic drugs have detrimental euphoric and hypnotic after-effects which could lead to amnesia, which would not help conditioning. Results of treatment carried out by Voegtlin and Lemere are given. Where their program only included conditioned reflex treatment, the present author added a part-time protective environment and supplemental psychotherapy. There was an initial series of four to eight daily sessions followed by one day reinforcement sessions at varying intervals over the first year. The selection of patients suited for this type of treatment is important. Those people who are relatively well adjusted are possibly able to lose their craving for alcohol in this manner. While those alcoholics who suffer from neuroses benefit little, directly from this type of treatment, the reduced craving and drinking of alcohol may be helpful in their readjustment. In addition, masochistic alcoholics might benefit, feeling that they had atoned for their guilt. Physical contraindications to treatment are mentioned and include the cardio-vascular-renal syndrome, hepatic cirrhosis, hernia, active peptic ulcer, recent hematemesis and active psychosis. The protective environment and the follow-up therapy are discussed and two short case reports, one dealing with alcohol habituation and the other with problem drinking are presented.

308 Thimann, J.

PART-TIME PROTECTIVE ENVIRONMENT AND WORKING  
PAROLE AS AN ADJUVANT IN THE TREATMENT OF ALCOHOL-  
ISM.

New England Journal of Medicine, 231(1): 9-11, 1944.  
E - gen. - case disc. - pat. - few ss. - male - alcohol. - abst. -  
classical - adjuv. - disc. probl. pat. - goal establis. A-2222.

The author was the medical director of a hospital in which a program was established for alcoholics to resume employment while spending all their free time in the hospital. This allowed the patients to gain self-respect while keeping them away from the possible emotional instability of their home environment and their drinking

companions. Three case histories are presented of alcoholics who underwent this treatment program receiving conditioned reflex treatment during their stay as well. It was found that "such a protective environment should be continued for about a year, supplemented, ---, by conditioned-reflex treatment, psychotherapy, social adjustments and, ---, relaxation therapy." All 3 men continued to work during their stay at the hospital, contributing to the cost of their board, and have remained abstinent. The hospital did not have the facilities to provide these patients with organized and varied activities during their stay in the hospital. With adequate grounds and resources, much more could be accomplished with alcoholics.

- 309 Thimann, J.  
 MENTAL HYGIENE IN THE REHABILITATION OF ALCOHOLICS.  
 Bulletin of the Massachusetts Society for Mental Hygiene, pp. 1-3,  
 July, 1945.  
 E - gen. - gen. disc. - out-pat. - alcohol. - abst. - classical -  
 chem. - adjuv. A-2346.

The author describes the part-time hospitalization program carried out at the Washingtonian Hospital in Boston. This program gives the alcoholic the opportunity to work full time outside the hospital while "spending his free time in the protective environment of the hospital." In this way, the alcoholic can receive the necessary psychotherapy, additional educational and professional training, and encouragement to develop hobbies and to learn to relax. In addition, conditioned reflex therapy is provided. The effects of this therapy are apt to wear off after several months if they are not reinforced with preventive follow-up treatments. "The efficacy of this treatment is permanent total abstinence in about 50 percent of all cases", results which are no greater than for other therapies for alcoholism. The ratio of male to female alcoholics in the following countries are: United States, 5:1; Great Britain, 2:1; and Scandinavian countries, 23:1. The author suggests that these different ratios could possibly be due to "the myth that heavy drinking is proof of vigorous masculinity, thus inducing weaklings to heavy drinking---."

- 310 Thimann, J.  
 CONDITIONED REFLEX TREATMENT FOR ALCOHOL ADDICTS.  
 Clinical Medicine and Surgery, 53: 220-222, 1946.  
 E - gen. - clin. study - pat. - more ss. - female - male - alcohol. -

abst. - classical - chem. - adjuv. - desc. treatm. - disc. theo.  
treatm. - goal establis. - c.r., 55 - apomor. - emetine A-2363.

The author discusses the conditioning experiments carried out by Pavlov. The proper study environment, the timing of the conditioned and unconditioned stimuli, and the need for repeated reinforcements of the conditioned reflex are all important. The fact that alcohol acts as a depressant and apomorphine has both euphoric and hypnotic effects which have detrimental effects on conditioning is discussed and these aspects are controlled through more appropriate timing of the two stimuli and the replacement of apomorphine with emetine. Differences in the techniques used at the Shadel Sanatorium in Seattle, the Washingtonian Hospital in Boston and the Chicago State Hospital are described. The author treated 168 alcoholics "in an initial series of 4 to 8 daily sessions, followed by one-day reinforcements, at varying intervals, during the first year." The patients are also hospitalized providing a part-time protective environment and supplemental psychotherapy. Of the 162 patients who could be located, 18 remained totally abstinent for 3 to 4 years, 24 for 2 to 3 years, and 21 for 1 to 2 years. The overall percentage abstinent was 56.1 percent. 5 of 7 patients who could not pay for their own treatment relapsed. Those who had responsible and gratifying jobs, did much better. Of the 21 females, 11 relapsed and 10 became teatotalers.

311 Thimann, J.

THE CONDITIONED REFLEX TREATMENT FOR ALCOHOLICS.  
In: Glueck, B., ed. Current Therapies of Personality Disorders.  
New York; Grune and Stratton, pp. 101-116, 1946.  
E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. - classical - chem. - adjuv. - desc. treatm. - disc. contraind. - disc. generaliz. - disc. theo. addict. - goal establis. - c.r., 55 - r.r., 25 - apomor. - emetine - pilocar. - ephedrine A-2270.

The author had used the conditioned reflex method in treating alcoholics at different hospitals in Boston, including the Washingtonian Hospital, for more than 3 years. The early literature on this topic is discussed and a detailed outline of the approach used by Voegtlin is presented. The results achieved by Voegtlin and modifications to the treatment technique by other researchers are provided. The present author found it difficult to give the initial 6 or 7 treatments during a patient's average stay of 5 days. Due to a sobering-up which a patient could possibly experience, and due to the fact that a patient might not be able to tolerate more than one treatment session a day, the average stay in hospital was



2 1/2 weeks. The author felt that the amount of ephedrine in the Voegtlin formula for the injections was too little and that the amount of pilocarpine was excessive. The formula, therefore, that the author administered was Emitine HCl, 50 gr.; Pilocarpine, 12 gr.; Ephedrine SO<sub>4</sub>, 30 gr.; and Water q.s., 40 c.c. Instead of adding whisky to a glass of beer and wine to facilitate the development of the conditioned reflex against these latter beverages, the present author added pure alcohol which is practically odorless and tasteless. In this way, fewer patients became suspicious. Small amounts of either apomorphine or strychnine were used to increase the effects of the aversion causing drugs. Amphetamines were given orally 20 to 30 minutes before each treatment. The author feels that alcoholics can be classified into 3 predominant personality types. With the first 2 types, alcoholism is their only outstanding difficulty so that conditioned reflex treatment in most cases is sufficient for full rehabilitation. With the third type of personality, the elimination of the symptom, by conditioned reflex treatment, can facilitate the main treatment, psychotherapy. The present author lists 6 psychological contraindications to this type of treatment. Beneficial factors related to the successful outcome of this treatment are a patient's favorable home situation, a part-time protective environment of the hospital, and the meetings of the "Abstinence Club". Of the 146 alcoholics treated between 1942 and 1945, there were 78 successes, and 50 failures. Two case studies are presented to indicate the economic aspects of the various therapies for alcoholism.

- 312 Thimann, J., and Price, G. M.  
 MODERN TRENDS IN THE TREATMENT OF ALCOHOL ADDICTS.  
 Journal of Social Casework, 27: 222-229, 1946.  
 E - gen. - case disc. - pat. - few ss. - male - alcohol. - abst. -  
 classical - chem. - desc. treatm. - disc. probl. pat. - goal  
 establis. A-2037.

The authors begin by presenting case descriptions for two alcoholics admitted for treatment. The first was a man who was mentally, maritally, and socially normal and relatively well adjusted. There was sure justification to believe that the elimination of the patient's chronic addiction to alcohol was all that was required. All that was necessary was conditioned reflex treatment for his alcoholism. The second alcoholic was a man who represented the large and important group designated as the psychoneurotic type of alcoholics. The treatment plan for such a patient consists of conditioned reflex treatment, psychotherapy, hospitalization, and social service with the patient's wife. Four weeks after admission, the



patient was allowed to attend a job but had to return at night and weekends. Later, he returned only on weekends. Six weeks after admission, he underwent the initial series of the conditioned reflex treatment followed by six one-day reinforcements during the first year. In psychotherapy, he gained insight so that his compulsive drive toward a neurotic behavior pattern was modified. Abstinence contributed to a more healthy pattern of family relations. The effects of the conditioned reflex treatment, employment, the patient's family and feelings of hostility are discussed in length. External and internal obstacles inevitably get in the way of rehabilitation. These obstacles arise from circumstances surrounding the patient's hospitalization, his search for a new job, the development of new family relations and the tempering of hostilities felt towards the patient.

313 Thimann, J.

# CONSTRUCTIVE TEAMWORK IN THE TREATMENT OF ALCOHOLISM.

Quarterly Journal of Studies on Alcohol, 8: 569-579, 1948.  
 E - gen. - case disc. - gen. disc. - pat. - few ss. - male - alcohol.  
 - abst. - classical - indiv. - desc. treatm. - disc. probl. pat. -  
 goal establis. A-1986.

For a comfortable life, a person must have a strong foundation comprising four bases - emotional, environmental, social and recreational, and physical. Treating the psychological component in alcoholics has proven very disappointing. What is needed, in addition, is an attempt to eliminate the compulsive craving for alcohol which develops in alcoholism. The conditioned-reflex treatment has this as its aim. In the author's treatment plan, the elimination of the addicting craving for alcohol is the first element and the psychiatric approach is the second element, if required. The third element involves improving the alcoholic's environment, his family life and his job situation. A short case description is provided showing the effects of a poor job and an unsatisfied wife on a man and his drinking. The fourth element in the author's rehabilitation plan consists of social and relaxation therapy. The psychological factors connected with drinking could be either causative of the addiction or a consequence of it. Differential diagnosis on this point is very important. A second case description is provided of an alcoholic to illustrate the problems which existed and how this person was helped with such a four pointed approach to treatment. The contribution of the conditioned-reflex treatment was more psychological rather than physical as the patient is described as having "withstood the 'punishment' by the father figure", that "he

had atoned for his sins", and that he "was now purified and equal to the father surrogate---." The treatment consisted of trying to improve the satisfaction of the patient's emotional, physical, environmental, and recreational and associational needs.

- 314 Thimann, J.  
 CONDITIONED-REFLEX TREATMENT OF ALCOHOLISM. I.  
 ITS RATIONALE AND TECHNIC.  
 New England Journal of Medicine, 241(10): 368-369, 1949.  
 E - gen. - gen. disc. - pat. - more ss. - female - male - alcoh. -  
 abst. - classical - chem. - adjuv. - desc. side-effects - desc.  
 treatm. - disc. pharm. - disc. theo. addict. - goal establis. - c. r.,  
 55 - f. p., ly. - r. r., 45 - d. r., 3 - emetine - pilocar. -  
 ephedrine A-1959.

In this discussion on the conditioned-reflex treatment of alcoholism, the author states that while the uncontrollable desire for alcohol may be precipitated by underlying neurosis or other factors, the established alcohol addiction is self-perpetuating and can best be described as an abnormal conditioned reflex. The early literature of the 1930's and 40's dealing with this method of treatment is discussed. The degree of revulsion to alcohol is dependent on both the conditioning technique and the patient's personality. It would seem that to prevent the treatment from losing efficacy, reinforcement sessions are required in intervals during the first year following initial treatment. Conditioned-reflex had been started seven years previously in the hospital to which the author was associated. Adjuvant treatment included psychotherapy and part-time hospitalization. A detailed description of the chemical aversion technique is provided. A discussion of the effects and the side-effects of the use of emetine is presented. Side-effects experienced by some patients were diarrhea, frequent bowel movements, pain in the intestines or genitals, neuromuscular disturbances, and cardiovascular manifestations. To reduce the possibility of any toxic manifestations the total dose of emetine over the initial series of treatments is 0.675 gm., pilocarpine has been eliminated from the injectable emetine solution, and the therapy is applied to only those patients who agree to follow the doctor's orders. Extrinsic and intrinsic reasons for patient relapse are discussed. The recidivists who began drinking for the former reasons have much better prognosis with further treatment than those who began drinking for the latter reasons. Fifty-one percent of 245 patients, for which there was follow-up information, remained abstinent for one to seven years.

315 Thimann, J.

CONDITIONED-REFLEX TREATMENT OF ALCOHOLISM. II.  
THE RISKS OF ITS APPLICATION, ITS INDICATIONS, CONTRA-  
INDICATIONS AND PSYCHOTHERAPEUTIC ASPECTS.

New England Journal of Medicine, 241(11): 406-410, 1949.

E - gen. - gen. disc. - pat. - more ss. - female - male - alcohol. -  
abst. - classical - chem. - desc. side-effects - desc. treatm. -  
disc. contraind. - disc. pharm. - goal establis. - c.r., 55 - f.p.,  
ly. - r.r., 45 - emetine A-2058.

The author outlines the risks, indications, contraindications, efficacy, and psychotherapeutic aspects of the conditioned-reflex treatment of alcoholism. Emetine is one of the alkaloids of ipecacuanlia and its pharmacological aspects are discussed. Its side-effects include nausea, vomiting, and diarrhea. It was also felt that emetine should not be used in patients with organic heart disease, or possibly, in patients who are anemic and debilitated. Around 1942, alcoholics were first treated at a hospital in Boston. At the time of writing, 282 patients had been treated for alcoholism. The total dose of emetine hydrochloride, per person, injected subcutaneously during the six to seven daily sessions varied from 0.5 gm. to 8.5 gm. All but a few of the patients treated reacted with diarrhea after two to three injections. Ten to fourteen days after the initial series of treatments, approximately 60 percent of the patients treated displayed general muscular weakness and aching, especially in the lower extremities. Only 5 of the 282 patients reacted with cardiovascular manifestations to any degree of severity. Several of these instances are discussed. A case is described in which a man died due to his lack of cooperation in following the procedures outlined after he had completed his conditioned-reflex treatment. After several days, he died of cardiac failure. To reduce the side-effects, the number of injections was reduced to six, pilocarpine was eliminated from the injectable emetine solution, and the treatment was only given to those who agreed to cooperate and follow the procedures. The overall percentage of abstainers among the 245 patients, for whom follow-up information was available, was 51.02. Twenty-one patients had been totally abstinent for 6 to 7 years, 37 patients for 5 to 6 years and 15 patients for 4 to 5 years. The author concludes the article by discussing the point that the conditioned-reflex therapy can be considered a psychosomatic approach to a truly psychosomatic disease.

- 316 Thompson, G. N. , and Bielinski, B.  
 IMPROVEMENT IN PSYCHOSIS FOLLOWING CONDITIONED-  
 REFLEX TREATMENT FOR ALCOHOLISM.  
 The Journal of Nervous and Mental Disease, 117(6): 537-543, 1953.  
 E - gen. - case disc. - clin. study - pat. - more ss. - female -  
 male - alcoh. - abst. - classical - chem. - indiv. - goal establis.  
 - emetine - ephedrine A-1960.

The efficacy of the conditioned-reflex treatment on six alcoholics who were also suffering from mental disorders not primarily due to alcoholism is discussed. These patients were part of a group of 27 who were found to be suffering from severe psychosis, in a larger group of 591 alcoholics treated by aversion therapy between the years 1942 and 1949. Three patients were diagnosed as paranoid schizophrenics while the other three suffered from severe depressions. It was felt that alcoholism was secondary and was used as an attempt to escape the symptoms of the psychosis or to relieve the severe mental depression. Short case reports for the six patients are provided. A solution of emetine hydrochloride, ephedrine sulfate, pilocarpine nitrate, and strychnine sulfate was used to produce emesis and the general discomfort used to create an aversion to alcohol. The patients suffering from agitated depression showed marked and prompt improvement after 8 or 10 aversion sessions. As this was the case for the schizophrenics, it was possible that they were suffering from psychosis only when they were intoxicated. The mechanism of improvement in these six cases is not known. Possible explanations are discussed. For some unknown reason, aversion treatments for alcoholism have a beneficial effect on mental abnormality.

- 317 Thomson, I. G. , and Rathod, N. H.  
 AVERSION THERAPY FOR HEROIN DEPENDENCE.  
 Lancet, 2(7564): 382-384, 1968.  
 E - res. - clin. study - pat. - more ss. - female - male - drug  
 addict. - abst. - classical - chem. - adjuv. - indiv. - desc.  
 treatm. - goal establis. - c. r. , 85 - succinyl. B-3295.

From the authors' experience in treating heroin addicts, they realized that in some cases the ritual of fixing and the needle were just as important as the drug. The authors used apnoea, induced by suxamethonium chloride ('Scoline') to break the pattern of intravenous abuse of narcotics. Six patients did not receive scoline aversion, 3 did not complete the set of 5 sessions given on successive days, and 10 patients completed the treatment. During each session, the patient was asked to prepare a fix and, as soon as paral-



ysis was imminent he was told to inject himself. Lying paralysed, the patient was told of the dangers of heroin. After minor cyanosis had developed, the patient was administered oxygen. Eight of the 10 treated patients had not started to use heroin or any other intravenous drug. Those who were in the untreated group relapsed into regular heroin use. Aversion therapy formed only a small part of the total therapeutic program. However, the treatment was beneficial in overcoming one of the major obstacles in a successful treatment program. That being the patient's ritual of preparing a fix and injecting himself. The authors report that pseudocholinesterase is required for the metabolism of scoline, so that anyone given this drug should be checked to make sure their pseudocholinesterase is normal.

## 318 Tiebout, H. M.

## ALCOHOLISM.

In: Kurtz, R. H., ed. Social Work Yearbook. New York;

Russell Sage Foundation, pp. 45-50,

1947.

E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - adjuv.  
- disc. theo. addict. - disc. theo. treatm.

A-2365.

After defining the term "Alcoholism", the author discusses the pathology of alcoholism, Alcoholics Anonymous, Conditioned-reflex treatment, Psychotherapeutic treatment, Prerequisites to successful treatment, and Agencies in the field. Conditioned-reflex treatment "is based upon the induction of automatic reflex vomiting of alcohol by giving an emetic and then having the patient drink just before emesis is due. The physiological aversion thus created frees the person from his obsession." Clinicians have reported 50 to 60 percent success at establishing sobriety. Reinforcement sessions sometime after treatment is suggested. "Without exception all practitioners of (this approach) advocate psychotherapy as an essential additional element in their curative program---." This would seem to indicate that more than conditioned-reflex treatment is required.

## 319 Turek, Z.

## LECZENI ALKOHOLIZMU PRZEWLEKLEGO ZA POMOCĄ.

APOMORFINY. [Treatment of chronic alcoholism by means of apomorphine.]

Polski Tygodnik Lekarski, 14: 1878-1880,

1949.

Po - res. - clin. study - pat. - more ss. - alcoh. - abst. -



classical - chem. - adjuv. - group - desc. treatm. - goal establis.  
 - c.r., 25 - f.p., 1y. - apomor. A-2033.

While the subject of chronic alcoholism had been focused upon some years ago, no original articles dealing with the treatment of alcoholism in hospitals has appeared in the Polish psychiatric literature. Results of treatment, carried out between 1950 and 1952, by De Morsier and Feldman showed that 31 percent of 500 patients were successfully treated using apomorphine. The author treated 73 alcoholics who had been drinking for years with this same drug. The patients were treated in groups of 3 to 11 people, 17 of these people were observed for 6 months to 3 years. 11 of these were successfully treated, 13 patients remained abstinent for 5 to 12 months. 4 patients returned for treatment after relapsing. The author concluded that the use of apomorphine was a good method which, with psychotherapy, led to complete or temporary abstinence. Also, the method was quite safe when applied in hospitals.

320 Turner, C.C.

THE CONDITIONED REFLEX IN THE TREATMENT OF ALCOHOLISM--CASE REPORTS.

Memphis Medical Journal, 17: 223-224, 1942.  
 E - gen. - case disc. - pat. - few ss. - female - male - alcohol. -  
 abst. - classical - chem. - desc. treatm. - disc. contraind. - disc.  
 probl. pat. - disc. theo. treatm. - goal establis. - c.r., 55 - r.r.,  
 45 - apomor. - emetine - pilocar. - ephedrine A-2055.

The author outlines Pavlov's research in developing a conditioned reflex response in dogs. The results of the treatment of 1,526 alcoholics by Voegtlin, Lemere, and their co-workers using the conditioned reflex therapy are provided. The technique described in this article was recommended by Voegtlin. A ten minims per dose emetic solution, made up of emetine hydrochloride, pilocarpine, and ephedrine sulfate was given to the patient to cause him to become nauseated. When he is about to vomit, the patient is made to drink liquor. During the ensuing ill period, which lasts between 19 and 30 minutes, the patient is made to sniff liquor and to look at the liquor bottles. Five sessions are given. If emesis is not produced by emetine, then the solution must be supplemented by some other emetine, preferably apomorphine. As soon as the emesis begins to fade, the liquor is removed. Case descriptions of a man, who benefitted from this therapy, and a woman, who was not successfully treated, are provided. Clinicians have found that there has been less success when younger individuals were treated. Also, the abstinence rate for women is lower than that for men treated

with conditioned reflex therapy. Contraindications to this type of treatment include cardio-vascular disease, gastric ulcer, cirrhosis of the liver, and psychosis. For there to be a better chance of success, the patient must "be sincerely desirous of a cure."

- 321 Varady, T., and Littauer, A.  
DIPSANNAL NYERT TAPASZTALATAINK ALKOHOLISTA TBC-S  
BETEGEK AVERZIÓS KEZELÉSÉBEN. [Experiences with dipsan  
in aversion therapy with tuberculous alcoholics.]  
Ideggyógyászati Szemle, 18: 93-95, 1965.  
H - gen. - gen. disc. - pat. - more ss. - alcohol. - abst. - classical  
- chem. - desc. treatm. - cit. cal. carb. B-3296.

The authors treated 36 tuberculous patients for alcoholism with conditioned-reflex therapy using citrated calcium carbimide. The treatment is described. It was found to be safe even when the alcoholics suffered from another chronic illness.

- 322 Vencovsky, E.  
LECENI ALKOHOLISMU TETRA-ETHYL-THIURAM-DISULFIDEM.  
[Treatment of alcoholism with tetraethylthiuram-disulphide  
(Antabuse).]  
Casopis Lekaru Ceskych, 89: 258-262, 1950.  
C - gen. - gen. disc. - pat. - alcohol. - abst. - classical - chem. -  
adjuv. - indiv. - desc. side-effects - desc. treatm. - disc. theo.  
treatm. - disul. - emetine A-2340.

The author discusses the characteristics of the disulfiram-alcohol reaction and the benefits of disulfiram in the treatment of alcoholism. It is pointed out that the intensity of the reaction is related to the amount of alcohol ingested, not the amount of disulfiram taken. The severity of the symptoms is also related to the personality of the alcoholic as well as the state of the vegetative nervous system. The aversion treatment of alcoholism using disulfiram was found by the author to be worthwhile. The technique he used consisted of first allowing the patients to experience the disulfiram alcohol reaction 2 or 3 times. After a few days rest, the alcoholics were given emetine aversion treatment which was repeated daily for 4 or 5 days. After release from hospital, they were given Disulfiram pills to be taken daily. The author pointed out that after treatment, alcoholics would test their aversion to alcohol. Because of this, great care had to be taken to make sure that with each test, the

outcome was not without its unpleasant consequences. The author also felt that individual or group psychotherapy was also of benefit.

- 323 Voegtlin, W.L., Lemere, F., and Broz, W.R.  
 CONDITIONED REFLEX THERAPY OF ALCOHOLIC ADDICTION.  
 III. AN EVALUATION OF PRESENT RESULTS IN THE LIGHT OF  
 PREVIOUS EXPERIENCES WITH THIS METHOD.  
 Quarterly Journal of Studies on Alcohol, 1: 501-516, 1940.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - desc.  
 treatm. - disc. generaliz. - disc. pharm. - disc. theo. treatm. -  
 apomor. - emetine A-1989.

The authors provide a thorough discussion of most of the aspects connected with conditioned reflex therapy of alcoholism. With this technique, a conditioned reflex was established based on an unconditioned nauseant response, to the hypodermic administration of emetine, being evoked by the conditioned stimulus, liquor. The three reasons why nausea and vomiting were used as the unpleasant sensations were that drugs were available to cause these sensations, there was a psychological connection between ingestion and vomiting, and vomiting would rid the body of alcohol. There was evidence that the nauseant action of emetine was of central nervous system origin. This would tend to support the notion that there was more to this treatment than just suggestion, or a psychological conditioned reflex. The authors felt that the fact that the patient knew that it was not the liquor which caused his illness, would not seriously interfere with the treatment. However, they refrained from telling their patients this fact. The authors stated that most failures or unsatisfactory results, in the past should not be blamed on an inadequacy of the principle but not satisfying the fundamental experimental conditions required. Several unsuitable techniques are described. In instances, where the patient was allowed to retain quantities of liquor, he would have become partially narcotized and very difficult to be conditioned. The authors provided a short review of the literature. In all, the final results of this therapy were not impressive even though in some cases, success was reported more frequently than with other treatments. Emetine was preferred over apomorphine because of its longer lasting effects, its effects could be controlled better, and because emetine did not have a narcotic or euphoric phase associated with it which would not be conducive to better results. "---the environment of the conditioning seance must be planned so that no stimulus will be impressed upon the patient's consciousness that is not related to either the drinking of liquor, --- or to the nausea and vomiting---."

The authors discuss this point much further. The different alcoholic beverages must be given between seances to prevent a conditioned response to all beverages. With much detail, the authors go on to discuss the development of technique, providing reinforcement sessions, and evaluating the prognosis of a patient. The authors indicated that "a properly established conditioned reflex should exist at its optimum strength for months at least."

324 Voegtlin, W. L.

THE TREATMENT OF ALCOHOLISM BY ESTABLISHING A  
CONDITIONED REFLEX.

American Journal of the Medical Sciences, 199:802-810, 1940.  
E - res. - clin. study - pat. - more ss. - female - male - alcohol. -  
abst. - classical - chem. - indiv. - desc. side-effects - desc.  
treatm. - disc. contraind. - disc. generaliz. - goal establis. -  
c. r., 65 - f. p., 3y. r. r., 35 - emetine - pilocarpine -  
ephedrine

A-1961.

The method of treatment and the results of treatment of 538 alcoholics over a four year period, using the conditioned-reflex approach are discussed. The average hospital stay for the patients was 5 days while they underwent 5 to 7 aversion sessions. Emetine was the drug of choice as its action was more prolonged and it produced no hypnotic effects. The session setting is described and was such that the patient's attention was constantly focused on the alcohol so that aversion to its sight, smell, and taste was manifested. A detailed description of the method is also provided. It was suggested to the patient that the injected medication was only a stimulant to support him through his discomfort. Of the total 538 patients for whom exact status was known, the percentage abstinent for the eight subsequent six-month periods following treatment was: 97.3 percent, 65.7 percent, 62 percent, 62.8 percent, 69.3 percent, 63.8 percent, 66.6 percent and 50 percent. It was clear that the great majority of relapses occurred between the sixth and 12th months following treatment. Treatment was found to be completely unsuccessful for those under the age of 28 years. Women were found to have a cure rate of 57 percent which was below the average. Relapses have also been shown to occur more often among wine drinkers, than beer drinkers, and lastly, distilled liquor drinkers. The difficulty of dehydration in alcoholics undergoing treatment is discussed. It was felt that further therapy and reinforcement sessions after six months following treatment would probably improve the results markedly.



- 325 Voegtlin, W. L., Lemere, F., Broz, W. R., and O'Hollaren, P.  
 CONDITIONED REFLEX THERAPY OF CHRONIC ALCOHOLISM.  
 IV. A PRELIMINARY REPORT ON THE VALUE OF REINFORCE-  
 MENT.  
 Quarterly Journal of Studies on Alcohol, 2: 505-511, 1941.  
 E - res. - clin. study - pat. - more ss. - alcoh. - abst. -  
 classical - chem. - disc. theo. treatm. - goal establis. -  
 c. r., 85 A-1990.

Conditioned reflex was the therapy used at an alcoholism-treatment sanitarium. The method consisted of establishing a conditioned reflex against alcohol in 4 to 7 sessions over a period of 3 to 7 days. Each patient was given liquor to drink shortly after being made acutely ill by means of an injection of a nauseant drug. The original data indicated that the majority of relapses occurred during the first year following treatment. Possibly, the periodic reinforcement of the original reflex for at least a year following treatment would increase the beneficial results obtained. A clinical study is presented in which an attempt was made to compare four groups of patients. The groups consisted of those patients who accepted the reinforcement series, those who refused the series, those whose circumstances prevented from cooperating, and those to whom the reinforcement series was not offered. Due to the structural flexibility of the treatment program which caused the desarray of these groupings, the data was presented according to the number of reinforcements received. Of the total 233 patients who received treatment, 82.1 percent remained abstinent. Of the 88 patients who received no reinforcements, the 113 patients who received one, the 57 who received two, the 20 patients who received three, and the 7 cases who received 4 or more, the percentages abstinent were 73.8, 79.6, 94.7, 90, and 100, respectively. Sixteen relapses which took place among patients who received reinforcement sessions occurred in those who initially failed to accept the reinforcement program but who subsequently underwent further treatment. There was not a single relapse in those patients who accepted the reinforcement program but who were prevented from cooperating in it. The attitude of the patient towards the treatment is very important as those who manifested cooperation and sincerity by accepting the reinforcement program had fewer relapses than those who refused.

- 326 Voegtlin, W. L., Lemere, F., Broz, W. R., and O'Hollaren, P.  
 CONDITIONED REFLEX THERAPY OF ALCOHOLIC ADDICTION.  
 V. FOLLOW-UP REPORT OF 1042 CASES.  
 American Journal of the Medical Sciences, 203:525-528, 1942.



E - gen. - gen. disc. - tables - pat. - more ss. - female - male -  
 alcoh. - abst. - classical - chem. - goal establis. - c. r., 45 -  
 f. p., 4y. or more - r. r., 45 - emetine A-2018.

A follow-up report is presented after an observation period of 5 1/2 years of 1042 alcoholics who were treated with conditioned reflex therapy. The exact status of 168 patients could not be determined, 43 others had died, and 4 had been confined to mental institutions. Percentages of patients who remained abstinent according to the elapsed time following treatment are provided. Of the 44 patients treated during the first 6 month treatment session more than five years previous 40.2 % were still abstinent. Of the latest patients to be treated, 85.9% were still abstinent. Of all the patients who were alive and whom their status was known, 58.6% were still abstinent at the time this report was made. On the basis of 142 cases observed for a period of from 4 to 5 1/2 years, 44.7% of the patients remained abstinent. The authors feel that this figure was low. The reasons for this were that the patients included were treated when the program was still in its experimental stages, that the abnormally high death rate eliminated the use of those patients who remained abstinent but died, and that those patients who remained abstinent following retreatment were not included. Due to those and other foactors, it would seem that this abstinence percentage following conditioned reflex therapy is the minimum that would be expected providing proper treatment techniques were developed.

327 Voegtlin, W. L. and Lemere, F.

THE TREATMENT OF ALCOHOL ADDICTION. A REVIEW OF  
 THE LITERATURE.

Quarterly Journal of Studies on Alcohol, 2: 717-803, 1942.  
 E - gen. - gen. disc. - review - alcoh. - abst. - classical -  
 chem. - electro. - hypn. (gen.) - disc. theo. treatm. - apomor. -  
 emetine A-1985.

The authors review a large body of literature, dealing with the treatment of alcoholism, under the following headings: Psychological Methods - The psychology of compulsory and punitive measures, Psychosocial therapy, Religious conversion, Conventional psycho-therapy in a controlled environment, Conventional psychotherapy in the normal environment, Psychoanalysis, and Hypnosis; Physiological Methods environment, Psychoanalysis, and Hypnosis; Physiological Methods - Conditioned reflex therapy, Elevation of blood sugar levels, Spiral drainage and other measures directed toward the reduction of intracavial pressure, Convulsion therapy: insulin and metrazol, and

Serotherapy and autohemotherapy; Pharmacological Methods - Benzedrine (amphetamine) sulphate, Vitamin therapy, Atropine and/or strychnine with or without other drugs, Emetine (used other than conditioning techniques), Apomorphine (used other than conditioning techniques), Rossum (di-phenylmethylpyrezolnyl), Sedative medication, Colloridal preparations of gold salts, and Miscellaneous Methods. The authors relate that "treatment of alcohol addiction by establishing a conditioned reflex depends fundamentally on the creation of an aversion or distaste for alcoholic beverages by virtue of their association during treatment with some sort of noxious stimulus." Many different types of this therapy were unsuccessful because of the absence of any controlled environment and because of the unscientific application of the learning principles. The work carried out in Russia in the 1930's employing shocks and apomorphine as the unconditioned stimuli is outlined. The Keely cure carried out in the United States between 1900 and 1930 is also mentioned. Apomorphine, emetine, and ipecac are the drugs which have been used to cause the nausea, vomiting, and general ill-feeling which is then associated with alcohol drinking. The results of this approach to treating alcoholism have not been greater than others using other methods of treatment. However, the present authors have been more successful in this approach than have others. "This type of treatment has the advantage of consuming only from 5 to 10 days and has the possibility of wide application." If proper application of the conditioning technique is made, treatment could result in cures for from 60 to 70 percent of the subjects.

328 Voegtlin, W.L.

THE CONDITIONED REFLEX TREATMENT OF ALCOHOLISM.  
Archives of Neurology and Psychiatry, 27: 514-516, 1947.  
E - gen. - gen. disc. - more ss. - alcoh. - abst. - classical -  
chem. - disc. generaliz. - goal establis. - c.r., 55 - f.p., 4y. or  
more - r.r., 45 - emetine A-2057.

The conditioned reflex treatment of chronic alcoholism requires a scientific approach and a precise application of technical details. It is of extreme importance that the sipping of alcohol preceeds and overlaps the nausea and the vomiting. Because of this, a high degree of technical skill is required in the people giving the conditioning sessions. In addition, important evaluations must be made through the progress of the treatment to determine the effectiveness of the procedures with the individual patients. Over 4,000 patients have undergone conditioned reflex treatment. In the last survey made before the war, 51.5 percent of 1,526 patients remained totally abstinent for 4 years or longer after the completion of treat-

ment. From the discussion which follows the article, the author adds these further points. Although the first patients were not told the mechanism for producing the conditioned reflex, the patients are presently told that they are being conditioned with the use of emetine. The results seem to have been better. Also, all efforts possible must be made to avoid any extra stimulus which might detract from the effectiveness of the conditioning procedure. The reason why an alcoholic does not acquire a conditioned reflex as a result of being sick after drinking is that in the drunken state, the ill effects do not register with the person or stay in his mind. The great majority of patients treated with the conditioned reflex procedures are not the primary type of alcoholic who drinks as a symptom of an underlying psychiatric difficulty. But even for this type of alcoholic, conditioning gives these patients an opportunity to remain sober in their normal environment and to adjust spontaneously.

329 Voegtlin, W. L.

CONDITIONED REFLEX THERAPY OF CHRONIC ALCOHOLISM,  
TEN YEARS' EXPERIENCE WITH THE METHOD.

Rocky Mountain Medical Journal, 44: 807-811, 1947.  
E - gen. - gen. disc. - more ss. - alcoh. - abst. - classical -  
chem. - adjuv. - desc. side-effects - desc. treatm. -  
emetine A-1962.

The author relates the experience gained in the treatment of 4,000 alcoholics over a ten year period using conditioned-reflex therapy. While this approach was to be the sole treatment for these patients and while more than half were successfully treated by this approach alone, it became apparent that some patients needed adjuvant treatment. Procedures including physical rehabilitation, social rehabilitation, formal psychotherapy, and individualized therapy were introduced. It was found that most of the patients who remained sober after conditioned-reflex treatment were quite successful in their own readjustment efforts. A slight but continuous degree of recidivism among patients from the fourth to the tenth year after treatment was apparent. From this it was apparent that this treatment was not a cure but merely secured a remission in the drinking habits of the patients. Initially, each patient was deceived as to the effects of the emetine injection. This practice was changed and resulted in better understanding and cooperation on the part of the patients. The proper administration of emetic and its individualistic effects on the different patients are examined in detail. Emetine has a cumulative effect so that a limit of 10 grains should be adhered to unless time is permitted for the cumulative effect to

dissipate. The necessity to follow closely the procedure to create the conditioned-reflex to alcohol is stressed. The alcoholic beverage must be presented to the patient just before the onset of the nausea and emesis. When ipecac was used instead of emetine, the results were found to be disappointing. Periodic reinforcement of the conditioned-reflex was found to be useful as it maintains the conditioned aversion to alcohol and because of the psychological benefit obtained from close reassociation of the patient with his problem. Social rehabilitation procedures after the initial aversion sessions were very important as many personal problems and incompatibilities with which the patients had been struggling were brought to light so that attempts at correcting these difficulties could be made.

- 330 Voegtlin, W. L.  
 LIMITATIONS AND ADJUNCTIVE THERAPIES IN TREATMENT  
 OF CHRONIC ALCOHOLISM.  
 Medical World, 65:165-168, 1947.  
 E - gen. - gen. disc. - pat. - more ss. - alcoh. - abst. -  
 classical - adjuv. - desc. treatm. - disc. probl. pat. - disc. theo.  
 addict. - goal establis. - c. r., 85 - f. p., 2y. - r. r., 45 A-2054.

The author outlines six different causes of chronic alcoholism. Because of the number of different causes, "the need of a varied and labile therapeutic armamentarium" exists. In addition, a careful diagnosis of each alcoholic and a complete therapy to suite each alcoholic are required. It was found that conditioning therapy was adequate for those patients who did not suffer from serious physical, environmental or psychiatric handicaps. Of the 4,000 or more patients treated, 70 percent needed little more than physical rehabilitation and conditioned reflex therapy. Diagnosis of alcoholic patients must include an exhaustive physical examination. It was found, for instance, that in 140 of 401 admissions, the patient's liver was palpable. Most physical abnormalities in alcoholics can be corrected and cure must be initiated while the person is hospitalized. The chances of help after discharge are very small. If nothing is done, the effects of these abnormalities can lead the alcoholic to further drinking. The environmental incompatibilities of the alcoholic must be investigated and dealt with. From this investigation and the patient's history, an assessment of his chances for success is made. Psychiatric assistance and pentothal interviews may also be of help. Patients who were psychotic or deteriorated were not accepted for treatment. Those who were accepted received conditioned reflex therapy during the seven to ten day hospitalization period. Reinforcement sessions were pro-



vided at stated intervals during the following year. Upon leaving the hospital, the patient's physical diagnosis was made available to his family doctor so that further treatment could be carried out. Psychiatric diagnosis was also sent for those who had mild psychiatric problems. A team of social workers helped the patient to deal with his environmental problems. It was found that 74.8 percent of the patients treated in this manner remained sober for up to two years and that about 51.5 percent would remain sober for four years or longer. Of those patients who received pentothal interviews, 50 percent remained sober for one year.

331 Voegtlin, W. L.

THE CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM.

Hygeia, 26: 628-629, 662-665,

1948.

E - gen. - gen. disc. - alcohol. - abst. - classical - chem. -  
 indiv. - desc. treatm. - disc. theo. treatm. - goal establis. -  
 emetine

A-2287.

In discussing the conditioned reflex treatment of alcoholism, the author outlines the fundamental characteristics of simple reflexes and conditioned reflexes as well as their differences. The author also explains how a conditioned reflex can be established through the pairing of a stimuli, not previously associated with the simple reflex response, and the simple reflex response. While simple reflexes are innate, conditioned reflexes are the result of learning and therefore could be forgotten, or extinguished. Several common examples of the development of conditioned reflexes are described. It has been found that emetine produces nausea and vomiting. If alcohol was given just before the onset of these effects, the patient would automatically associate these feelings to the drink. Proper timing in this case is most important. "Conditioning cannot proceed in competition with distraction." The patient's thoughts must be on his drinking liquor and the resulting illness he experiences. "An intoxicated, drugged or debilitated subject cannot develop a satisfactory conditioned reflex." The usual number of sessions an alcoholic must undergo is between 4 and 8. It also was found that each session must be progressively more severe and of longer duration. Satisfactory results can only be obtained through rigorous and scientific procedures. "The value of the conditioned reflex therapy lies in the abolition of any craving for liquor," however, in most cases, a renewed craving for liquor followed promptly after taking a single drink. "It has been found that conditioned reflex therapy alone (was) insufficient for those alcoholics characterized by --- (under 23 years of age), chronic financial indigence, crim-



inal records, mental illness and psychopathic traits." This method of treatment "constituted an adequate therapy by itself in about 70 percent of reported cases. In the remainder it (was) a most valuable adjunct to psychotherapy or other types of treatment."

332 Voegtlin, W. L., and Broz, W. R.

THE CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM. X. AN ANALYSIS OF 3125 ADMISSIONS OVER A PERIOD OF TEN AND A HALF YEARS.

Annals of Internal Medicine, 30: 580-597,

1949.

E - gen. - gen. disc. - tables - pat. - more ss. - female - male -  
alcoh. - abst. - classical - chem. - goal establis. - c. r., 45 -  
f.p., 4y. or more - r. r., 45 - d. r., 8 - emetine A-2017.

The authors present a large number of analyses of the 3125 patients admitted to hospital for alcoholism. The patients who cooperated and were able to undergo the procedure were treated using conditioned reflex therapy. The overall abstinence of the cases treated in the ten and a half years was 44.8 percent. Many of the patients who relapsed were treated a second, third, and even a fourth time. Data and tables for the following factors which were likely to affect prognosis were presented: The factors were sex, age, drinking pattern, religious belief, family discord, marital status, occupation, financial status, ability to pay treatment fee, place of residence, and existence of a police record. The results for patients who suffered from nervousness, a nervous breakdown, or a physical deformity were analyzed. The success of patients who had enlarged livers or who had delirium tremens is also provided. In addition, the percentages of patients who remained abstinent after therapy according to the number of years of drinking before treatment are provided as are the analyses for patients who had remained abstinent prior to treatment and those who had been referred by their doctors. An analysis of the causes for relapses is also presented. It was found that those who relapsed, had an average of 11.2 months of sobriety until they resumed drinking. This data has proven that conditioning therapy was of great value in helping alcoholics and that adjuvant methods should enhance the results provided to date. Most of the major factors analyzed did exert a specific effect on the outcome of the patient.

- 333 Vogler, R. E., Lunde, S. E., and Martin, P. L.  
ELECTRICAL AVERSION CONDITIONING WITH CHRONIC  
ALCOHOLICS: FOLLOW-UP AND SUGGESTIONS FOR RESEARCH.  
 Pacific State Hospital, Unpublished Paper. Supported by the  
 California Department of Mental Hygiene, 8pp., 1970.  
 E - res. - clin. study - pat. - more ss. - male - alcohol. - abst. -  
 classical - electro. - indiv. - goal establis. - f. p., ly. B-3146.

A report is presented showing the effectiveness of electric aversive conditioning one year after the previously reported treatment for alcoholism took place. Alcoholics had been randomly assigned to one of 4 groups receiving response-contingent shock plus reconditioning sessions, response-contingent electric shock, randomly received shock (control situation), no shock received (control situation). The results were also compared to a group of subjects who received only routine hospital treatment. The date for comparison was received from the last Reporting Inpatient Work File of the California Department of Mental Health. The three criteria used were days to first rehospitalization, proportion of year hospitalized, and number of rehospitalizations. The subjects in the first two conditioning groups did not differ greatly from the subjects in the third group, which received random shocks, on any of the criteria. Possibly, non-response-contingent shock in a drinking atmosphere could be as effective as response-contingent shock in suppressing drinking. The subjects in the first two conditioning groups had better results for all three criteria than the fourth group of subjects, who received no shock, and had significantly better results for all three criteria than the ward controls. The authors conclude with 12 suggestions which could possibly increase the effectiveness of this type of electric aversive conditioning for alcoholics.

- 334 Vogler, R. E., Lunde, S. E., Johnson, G. R., and Martin, P. L.  
ELECTRICAL AVERSION CONDITIONING WITH CHRONIC  
ALCOHOLICS.  
 Journal of Consulting and Clinical Psychology, 34(3): 302-307, 1970.  
 E - res. - clin. study - tables - pat. - more ss. - male - alcohol. -  
 abst. - classical - electro. - group - desc. treatm. - goal n.  
 establis. - c. r., 55 - f. p., 9m. - r. r., 25 - d. r., 15 B-3147.

An experiment is presented in which adequate controls are employed in an effort to determine the effectiveness of electrical aversion conditioning. Seventy-three male alcoholic patients, whose median for length of drinking problem was 11 years, were assigned in pairs,

randomly to one of 4 groups. The treatments were: 1. booster, electrical aversion conditioning with extra booster sessions after the main treatment period; 2. conditioning-only, the same as above except no extra sessions were provided after the main treatment period; 3. pseudoconditioning, control subjects were randomly shocked through the treatment session; and 4. sham conditioning, control subjects were treated the same as the first two groups but received no shocks. A group of ward control subjects were added later. A simulated public bar was set up in a hospital room to which two sets of finger electrode wires could be attached. The subjects were given drinks of their choice and were told to sip, but not swallow it. In the reinforcement trials with the booster and conditioning-only subjects, a shock of about 3 milliamps was delivered to the fingers contiguously with the sip. It was terminated by spitting the drink into a small bucket. The subjects took at least 20 sips per session and there were two sessions per day for 10 days. The booster subjects were to return after 2 weeks for their first reconditioning session. Although 8 of those were planned, the median number of appointments kept was three. The three control groups received the treatment corresponding to their condition. Graphs showing the median days to relapse for the conditioning and control groups, and the percentage of relapse at last follow-up are provided. It was apparent that the conditioning technique was superior to the other routine methods of treatment. However, without the booster sessions, the conditioning subjects tended to return to drinking sooner. Forty-six percent of the conditioning-only group were sober in an 8-month follow-up period. The combined booster and conditioning-only groups yielded 56% sobriety.

- 335 Vogler, R. E., Lunde, S. E., and Martin, P. L.  
ELECTRICAL AVERSION CONDITIONING WITH CHRONIC  
ALCOHOLICS: FOLLOW-UP AND SUGGESTIONS FOR RESEARCH.  
Journal of Consulting and Clinical Psychology, 36(3): 450, 1971.  
E - gen. - clin. study - pat. - more ss. - alcoh. - abst. - classical - electro. - goal establis. B-3224.

The authors present an evaluation of the effects of electrical aversion conditioning therapy during a one-year period following treatment of chronic alcoholics. Volunteer patients had been "randomly assigned in pairs to one of four groups: (a) booster that is, response-contingent shock plus reconditioning session; (b) conditioning only, that is, response-contingent electrical shock; (c) pseudoconditioning, that is, control Ss shocked randomly; and (d) sham conditioning, that is, control Ss who received the same treatment as conditioning Ss but without the shock." A group of ward con-

trols was also used. The conditioning Ss received a shock, when they sipped an alcoholic drink of their choice, which was terminated when the Ss had spit the drink into a bucket. The criteria for evaluation were: 1. days to first rehospitalization, 2. proportion of year rehospitalized, and 3. number of rehospitalizations. With the data for the conditioning groups pooled, it was found that the means on all three criteria for the pseudoconditioning Ss were better than for the conditioning Ss. Compared with the other control groups, the conditioning Ss showed better results except that they spent more time rehospitalized than the sham-conditioning Ss. While no data are provided, it is stated that "the conditioning technique produced durable effects in controlling alcoholism." Also noted was the fact that the pseudoconditioning paradigm was as effective as the two conditioning procedures.

- 336 Vogler, R. E., Ferstl, R., and Kraemer, S.  
 PROBLEMS IN AVERSIVE TRAINING IN ALCOHOLICS RELATED  
 TO SOCIAL SITUATION.  
 Studia Psychologica, 13: 211-213, 1971.  
 E - res. - clin. study - pat. - few ss. - female - male - alcohol. -  
 abst. - classical - electro. - indiv. - desc. treatm. - goal  
 establis. - c. r., 95 - f. p., 9m. B-3231.

The difficulty of the alcoholic's adjustment to his social situation after his alcoholic behavior has been eliminated by aversive techniques is dealt with. The situations to which the patient returns are usually the ones which cause him to resume drinking. An experiment was undertaken in which random shocks would make some cues of social situations, in which drinking became excessive, more aversive. Electrical aversive techniques were applied to three patients. The shocks were applied to a patient when he had the full taste and aroma of his drink. The shocks were terminated when the patient got rid of this liquor in his mouth by spitting it into a bucket. Treatment consisted of about 25 sessions as the reinforcement schedule was changed from 100 to a frequency of 50%. It was felt that random shocks would finish the whole drinking situation in both social and visual ways. The patients were also shocked when they had no liquor but spoke of prior drinking situations or were looking at their glass or the liquor bottle. The conditioning room was designed to resemble a public bar and at times, the experimenter drank liquor in front of the patient. The patients who all had chronic and excessive drinking problems, remained sober for twelve months after treatment. Their social behavior also improved. No signs of social anxiety appeared in the patients so that it appeared that the social stimuli for drinking was greatly



weakened or greatly lost their function. This treatment should lessen the social effects which contribute to the over-indulgence of alcohol.

- 337 Vogler, R. E. , and Caddy, G. R.  
 TREATMENT AND PREVENTION OF ALCOHOLISM: THE  
 MODERATION APPROACH.  
 In: American Psychological Association. 81st. Annual Convention  
 Proceedings. Volume 8, Part 2, pp. 927-928, 1973.  
 E - gen. - gen. disc. - pat. - alcoh. - mod. - classical - electro.  
 - adjuv. - desc. treatm. - disc. theo. treatm. B-3789.

There has been some evidence that moderate drinking in treated alcoholics is a realistic goal for certain alcoholics and possibly "a highly desirable approach to the prevention of the development of a chronic drinking problem." The authors describe two alcoholic treatment programs in which moderation was the goal. The first program consisted of: videotape self-confrontation, discrimination training, educational sessions, behavioral counseling and aversion therapy for over consumption. Each patient was allowed to drink up to 16 oz. of liquor during which his behavior was recorded. The film was replayed for the patient the following day and proved to be highly unpleasant to the patient and of considerable value in motivating the patient to change. The different behavioral effects which typically accompany the various blood-alcohol concentrations were explained to the patient and through these effects they were instructed to estimate their own blood-alcohol content. After achieving a degree of skill in estimating, he is given alcohol to bring his BAC up to .05 mg%. At this point, 2 electrodes were attached to his finger and was told that further drinking could lead to electrical shocks. He was told to drink more alcohol and , on 75 percent of the subsequent trials, received highly aversive shocks lasting up to 5 seconds. "These sessions (were) provided for 1 year after the initial training on an increasingly intermittent basis." Sessions were also given which provided the patients with basic facts regarding alcohol, such as its physiological effects, metabolic rates, alcohol equivalents between drinks, and the social and vocational consequences of excessive drinking. In addition, counseling was provided to analyze settings which typically precipitate excessive drinking to develop alternative solutions. This phase included, if needed, behavior rehearsal, assertion training, and relaxation training. The second program was directed more at the problem drinker rather than at the alcoholic. Three different procedures were followed differing in the treatment components emphasized in the different procedures. "By December 1973, 6 to 12 months of



follow-up data for a majority of Ss in both these programs will be available. "

338 Wallerstein, R. S.

COMPARATIVE STUDY OF TREATMENT METHODS FOR  
CHRONIC ALCOHOLISM: THE ALCOHOLISM RESEARCH AT  
WINTER V. A. HOSPITAL.

American Journal of Psychiatry, 113: 228-233, 1956.

E - res. - clin. study - pat. - more ss. - alcoh. - abst. -  
classical - adjuv. - disc. probl. pat. - goal establis. - c.r., 25 -  
f.p., 2y. - d.r., 15 A-1996.

A research project was carried out for 2 1/2 years with 178 alcoholics and the results, after a 2 year follow-up period, are presented in this paper. Four treatment approaches of antabuse, conditioned-reflex, group hypnotherapy, and milieu treatment, consisting of individual and group psychotherapy and a milieu program, were compared in a closed ward setting. The patients in the first three groups also received the psychotherapy and milieu treatment. Only voluntary patients were admitted and, as each patient was categorized as to their psychological characteristics, the potential efficacy of each approach in terms of which kinds of patients it helped could be determined. The conditioned-reflex patients were each given a 5-day course of conditioning followed by a trial of liquor without the unconditioned stimulus. Reinforcement sessions were given before hospital discharge and again at each follow-up visit. More patients in the antabuse and the conditioned-reflex groups remained with the treatment (83 and 80 percent). Twenty-four percent of the patients in the conditioned-reflex group showed improvement compared to 53 percent in the antabuse and 36 percent in the group hypnotherapy groups. A number of personality dimensions emerged by which the patients could be differentiated as to suitability for one or another of the specific therapies. However, these dimensions were not one-to-one correlations. It was found that the overtly depressed patients might respond best to the conditioned-reflex therapy. The strongly aggressive patients posed comparable problems in all groups, with conditioned-reflex and hypnotherapy specifically contraindicated for different reasons.

- 339 Wallgren, H., and Barry, H., 3rd.

CHAPTER II. UNDERSTANDING AND TREATMENT OF ALCOHOLICS.

In: Wallgren, H., and Barry, H., 3rd. Actions of Alcohol. Volume II. Chronic and Clinical Aspects. Amsterdam; Elsevier Publishing Company; pp. 756-759, 1970.

E - gen. - gen. disc. - alcohol. - abst. - classical - chem. - electro. - desc. treatm. - disc. contraind. - disc. generaliz. - disc. theo. treatm. - apomor. - cit. cal. carb. - disul. - emetine - succinyl. B-3746.

In a discussion of several different treatments for alcoholism, aversion training is outlined. The author states that "aversion therapy consists of training the patient to associate the sight, smell, and taste of an alcoholic beverage with an unpleasant reaction caused by a drug, painful electric shock, or other physical treatment." The drugs used to cause nausea and vomiting cause those symptoms most compatible with an alcoholic's experience with drinking. The emetic agents most frequently used were apomorphine, emetine, and calcium carbimide. From studies surveyed, this method of treatment did not appear to be superior to other methods, giving a 24 percent improvement rate, found in one of the more adequate studies. The emetic drugs have side effects which could be potentially dangerous. Most alcoholics are not in perfect health so that caution must be observed. The author discusses the difficulty of generalizing the effects of conditioning in the hospital to the circumstances in the patient's usual social situation. Perhaps, group sessions taking place in more natural settings would improve the results of this type of treatment. One study is cited in which group therapy was unusually successful. With emetic drugs, the onset of the unpleasant symptoms is hard to control. The timing between the drinking of the liquor and the onset of these symptoms is critical. The drug disulfiram is briefly discussed. The severity of its reaction with alcohol is such that it is not often used as a counter conditioning agent. The timing of a painful electric shock can be more precisely controlled. However, this pain is less compatible with the alcoholic's experience associated with the ingestion of alcohol. The use of the drug succinylcholine is briefly discussed but, again, its effects are not compatible with an alcoholic's drinking experience. This method of treating alcoholism effects only the symptom of excessive drinking without getting at the underlying problems. "---Its effect seems to be primarily supportive in conjunction with other therapy and with the patient's desire to stop drinking."

- 340 Walls, R.T., and Gulkus, S.P.  
 WHAT'S HAPPENING IN HARD-DRUG REHABILITATION?  
 Rehabilitation Literature, 34(1): 2-6, 1973.  
 E - gen. - gen. disc. - drug addict. - abst. - classical - operant -  
 electro. - pos. reinfor. - vis.-verbal - desc. treatm. B-3769.

The authors discuss the use of Methadone, Morphine and Heroin Antagonists, Psychotherapy, Therapeutic Community, and Behavioral therapy in the treatment of narcotic addiction. Under Behavioral treatment, the authors point out the 2 general classifications: "1) classical, involving more reflex or autonomic responding, and 2) instrumental, involving voluntary response characteristics and control." With the former, a researcher has the addict select slides of the drug-taking behavior that most closely relates to his procedure. Through a test, the addict's interest in these slides is measured. Then the slides are shown in sequence and the addict is shocked at appropriate points in the routine. "For some clients capable of good visualization or imagery, the shock may be replaced by imagining some noxious event." In classical conditioning, or contingency contracting, "a legally binding contract is drawn up between the therapist and client specifying the narcotics that may not be taken." A violation of any part of this contract could lead to a personal donation to the Ku Klux Klan or to the Narc Squad "that busted him" or a loss of his personal belongings. This type of approach has found some success.

- 341 Williams, E. Y.  
 MANAGEMENT OF CHRONIC ALCOHOLISM.  
 Psychiatric Quarterly, 21: 190-198, 1947.  
 E - gen. - gen. disc. - pat. - more ss. - female - male - alcohol. -  
 abst. - classical - chem. - adjuv. - desc. treatm. - goal establis.  
 - c.r., 10 - emetine A-2260.

Through experience, the author developed the following procedure for the treatment of alcoholism: 1) treatment of the physical condition, 2) psychotherapy, 3) conditioning against alcohol, 4) substitute for alcohol, and 5) development of a hobby. The author presents a brief analysis of each component. From the experience that once an alcoholic tastes liquor, he is unable to resist it until fully intoxicated, the author felt that conditioned reflex therapy filled an important need in the treatment of the alcoholic. In a conditioning session, a patient received an ounce of his favorite drink along with 4 cc. of emetine HCl. The patient also received, hypodermically, 1/4 gr. of pilocarpine dissolved in 1 cc. or less of water. Usually after 15 to 20 minutes, the patient would vomit.

During this waiting period, the patient was "told of the ill effects of alcohol on his nervous system, gastro-intestinal tract, heart, kidney and liver." An attempt was made to create an aversion to smell, sight, hearing and the taste of liquor. Patients received 10 or more treatments on alternate days. When nausea or vomiting was produced by the sight of alcohol, it was concluded that the patient had reached the desired goal. Of 35 patients treated in this way over a 3 year period, 18 completed the treatment while 17 failed to complete the treatment. Only one of those who completed the program was a woman. Of those who completed the program 5 showed a definite aversion to alcohol, while 11 had returned to moderate drinking without becoming intoxicated. It was found that an ill feeling was not produced in all patients. Some only experienced a bitter taste.

342 Williams, L.

SOME OBSERVATIONS ON THE RECENT ADVANCES IN THE TREATMENT OF ALCOHOLISM.

British Journal of Addiction, 47(2): 62-67, 1950.  
 E - gen. - gen. disc. - alcoh. - abst. - classical - chem. - disc.  
 theo. treatm. - apomor. A-1997.

In this paper, the author discusses the conditioned reflex treatment of alcoholism, from his observations of the work carried out by Voegtlin and Lemere, and from his reading of the work of Dent, and Alcoholics Anonymous. Like all other treatments in psychiatry, the success of conditioned reflex therapy depended on the proper selection of patients. Those alcoholics, who had arrived at the stage of compulsive drinking between the ages of 40 and 50 years, seemed to do the best with this type of treatment. What surprised the author was the fact that some patients, although they never developed a true aversion, were able to maintain sobriety. The author goes on to discuss this fact quoting a paper read by William Sargent, who said, "Repeated vomiting and physical debilitation in the conditioned aversion treatment of alcoholism often seems to lay the patient open to suggestion and psychotherapy which would never be acceptable without it---." The author has observed that after days of vomiting and nausea, the person's alcoholic pattern is not only broken down, but a profound disruption of other aspects of the person's outlook can be achieved. Medical therapy could be an excellent basis on which to start psychotherapy. In addition, if a strong aversion was created, this would reinforce the effects of the psychotherapy which has been provided when the patient was in a more suggestable frame of mind. A large part of the efforts made by Voegtlin and Lemere are psychological. "The suggestive effect of the conditioning sessions, the sympathetic attitude of the staff,



the effects of patients on each other, ---, are all important adjuncts to the conditioning therapy. " Without this, aversion therapy would not be enough. The author goes on to discuss Alcoholics Anonymous stating that this program, as well, relies on an initial disruptive technique to bring around a personality change.

343 Williams, L.

A REVIEW OF TWO HUNDRED CHRONIC ALCOHOLICS.

Lancet, 262: 787-789,

1952.

E - res. - clin. study - pat. - more ss. - female - male - alcohol. - abst. - classical - chem. - adjuv. - desc. treatm. - disc. probl. pat. - disc. theo. treatm. - goal establis. - c.r., 45 - f.p., 3m. - apomor. - emetine - pilocar. - ephedrine A-2221.

The recovery-rate of alcoholism has remained very low creating a non-constructive atmosphere of pessimism regarding the whole thing. No one form of therapy has provided satisfactory results suggesting "that the secret of therapy lies not so much in its nature as in its application to each individual case." The type of treatment given an alcoholic must be based on his personality before the onset of excessive drinking. The author defines the following 4 categories: alcoholics of good previous personality, alcoholics with an underlying neurosis, alcoholics with an underlying psychosis, and alcoholics of psychopathic personality and indicates the appropriate type of treatment for each. The author treated 200 middle-aged patients who were in the higher social classes with the conditioned reflex form of therapy. Dent, in using apomorphine, felt it removed the desire to drink, in the alcoholic. Voegtlin used emetine to elicit the unconditioned reflex of nausea and vomiting to the sight, smell, and taste of alcoholic drinks. The present author gave his patients emetine, together with pilocarpine and ephedrine. "The proper degree of aversion is reached when the sight or smell of alcohol produces nausea and the proper mental attitude (is reached) when the patient declares the he---wants to have nothing to do with it (alcohol) again." The benefit of this treatment is not solely based on its conditioning effects. This treatment produces some disruptive effects on the patient's personality and a total change in outlook is experienced. A phase of increased suggestibility is also experienced during which the patient is particularly amenable to psychotherapy. The treatment lasted for 3 to 4 weeks. Of the 83 patients with a good personality, 90 percent remained sober for 6 months, of whom 48 percent remained sober for 1 to 4 years. Of the 25 patients with an underlying neurosis and given general and specific treatment, and in some cases psychotherapy, 56 percent remained sober after 6 months, of whom 24 percent re-



mained sober for more than 1 year. Of the 76 patients of psychopathic personality, only 2 remained sober for 2 years after which they both relapsed. In those who remained abstinent, group therapy was found to be of great help.

- 344 Wilson, G. T., and Davison, G. C.  
 AVERSION TECHNIQUES IN BEHAVIOR THERAPY: SOME  
 THEORETICAL AND METATHEORETICAL CONSIDERATIONS.  
 Journal of Consulting and Clinical Psychology, 33(3): 327-329, 1969.  
 E - gen. - gen. disc. - alcohol. - abst. - classical - chem. -  
 electro. - disc. theo. treatm. B-3732.

A recent trend in behavior therapy of alcoholism has been the use of electric shock, instead of nausea-producing drugs, as the noxious stimuli. From a practical point of view, this trend could be supported. By using an electric shock, the experience was less unpleasant for both the patient and the therapist than if the patient was made ill. In addition, the use of emetic drugs was more difficult due to individual variability in response to these drugs. However, from psychological research, it has been found that an electric shock might not be an appropriate reinforcer of the inhibition of alcohol consumption. Generally, it was found that "pairing a perceptible cue with an effective reinforcer (did) not lead automatically to effective associative learning. Rather it (seemed) that the cue must be 'appropriate' for the consequences that ensue." Possibly by this they mean physiologically appropriate. The smell, taste, and consumption of alcohol has to do with ingestion while an electric shock is not physiologically related. Because of this, "the fear response from a shock UCS may be conditioned only to nongustatory attributes of alcohol,---." It was suggested that electric shock may be appropriate for visual and/or tactile stimuli. Behaviorists stress the functional nature of stimuli and responses. From this discussion, it can be seen that they must deal with the physiological nature of stimuli and responses as well.

- 345 Wisocki, P. A.  
 THE SUCCESSFUL TREATMENT OF A HEROIN ADDICT BY  
 COVERT CONDITIONING TECHNIQUES.  
 Journal of Behavior Therapy and Experimental Psychiatry, 4:  
 55-61, 1973.  
 E - gen. - case disc. - out-pat. - few ss. - male - drug addict. -  
 abst. - operant - vis.-verbal - indiv. - desc. treatm. - disc.  
 probl. pat. - disc. theo. treatm. - goal establis. B-3287.

The author treated a 26 year old heroin addict using several behavior modification techniques. The man reported a 3 year addiction to heroin, was "educated, highly motivated, (and) presented himself for therapy voluntarily (and on a paying basis)---." Other forms of therapy had failed and the longest period of abstinence he reported was 6 weeks. Treatment was begun after he had just completed a 15-day methadone withdrawal program. The 3 goals of treatment were to eliminate his addiction, to improve his self concept, and to improve his attitudes toward society. The techniques used in this effort were covert reinforcement, covert sensitization, thought stopping and covert reinforcement sampling. 12 sessions were provided, once a week, in a non-institutional setting. Covert reinforcement was used to reinforce himself for refusing drugs. Pleasurable scenes were developed which he was to imagine as he said the word "reinforcement" after picturing himself putting down the motion to take heroin. The imagining of these pleasurable scenes was to be a reward for putting down or not taking drugs. Thought stopping was initiated to reduce the frequency of positive thoughts about heroin use. Covert sensitization was begun to condition an aversive response to the use of heroin. Because "the idea of vomiting was positively associated with a good grade of heroin," it could not be used for the aversive stimuli. The aversive stimulus which he was asked to imagine to positive responses to heroin was being "suddenly assailed by a swarm of flying insects, attacked by spiders, contracting instant leprosy, or being immersed in sewage." Description of several of these scenes is provided. During the fourth week of treatment, he injected some heroin and immediately felt depressed. Practicing many of these scenes at home, he eliminated his drug taking habit. Attempts at achieving the 2 other goals are outlined. At an 18 month follow-up meeting he reported not having used heroin again, he had a job, was married and was experiencing an active social life.

346 Wolpe, J.

CONDITIONED INHIBITION OF CRAVING IN DRUG ADDICTION:  
A PILOT EXPERIMENT.

Behaviour Research and Therapy, 2: 285-288, 1965.

E - gen. - case disc. - out-pat. - few ss. - male - drug addict. -  
abst. - operant - electro. - adjuv. - desc. treatm. - disc. theo.  
addict. - goal n. establis. - f. p., 3m.

B-3223.

The author gives reference to articles in which conditioning of avoidance responses to exteroceptive stimuli associated with drug addiction was attempted. However, it is much more difficult to condition aversive reactions to the underlying antecedents of craving

for a drug in a person. The only way this could be accomplished would be to punish the negative stimuli or "the onset of endogenous drug-cravings." The author presents a case report of a person who underwent treatment for his addiction to Demeral (Pethidine) by carrying a portable faradic apparatus with him and self-administering shocks whenever he felt the onset of the craving. The patient had been taking 20 to 30 times the usual therapeutic dose of Demeral. A program of therapy for his neurotic reactions was established and was given the electrical apparatus in an attempt to inhibit his craving for the drug. On several occasions during the first month, he self-administered from 2 to 4 shocks as he experienced feeling of craving. His need for psychoanalysis ceased and a 3 point conditioning program was started. This program consisted of bringing about a conditioned inhibition of the endogenous impulse; 2) to condition an aversion to ampoules and other stimuli associated and 3) to overcome (his) neurosis." The patient was able to control his craving for the drug for 3 months even with the apparatus not functioning. However, he did resort to taking the drug after this time. Perhaps, if the reciprocal inhibition by faradic shock had continued, the endogenous impulse to take the drug would have been eliminated.

347 Zvonikov, M. Z.

[ A modification of the conditional-reflex apomorphine and suggestive therapeutical technique in alcoholism.]

Zhurnal Nevropatologii i Psikiatrii imeni S.S. Korsakova, 68:

596-599,

1968.

R - gen. - case disc. - clin. study - pat. - alcoh. - abst. -

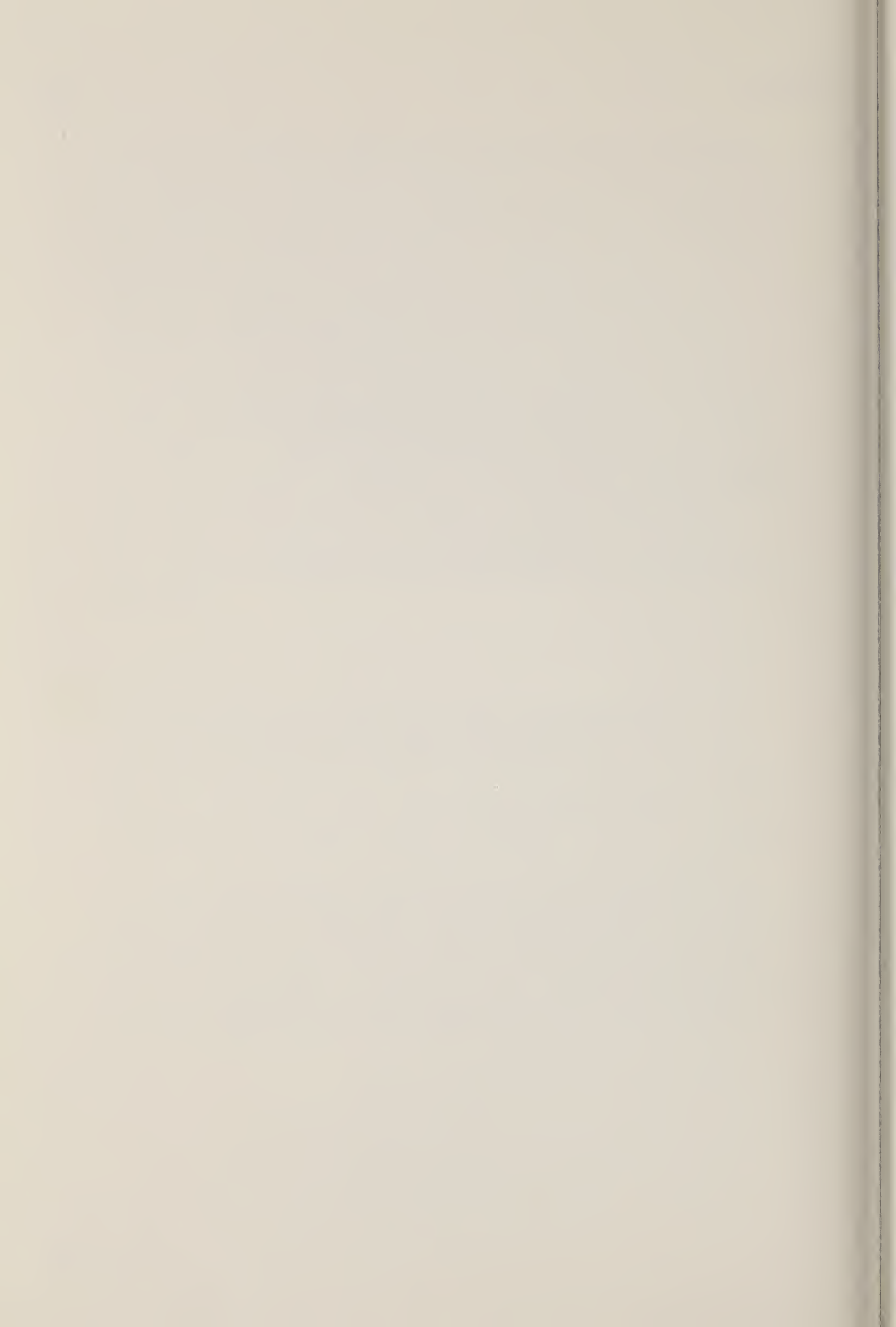
classical - chem. - desc. treatm. - apomor.

B-3233.

Conditioned-reflex therapy using apomorphine was suggested by I. F. Sluczevski and A. A. Friken in 1933. At the same time, I. B. Strielczuk and other physicians began to treat alcoholics using the conditioned-reflex of vomiting, by adding apomorphine to the alcoholic beverages, and through suggestion. Vitamin B1 was also administered by injection. Usually, 15 to 20 sessions were required. Case descriptions are provided showing the effectiveness of this approach in the treatment of chronic alcoholism.

## AUTHOR INDEX

An alphabetical listing of the names  
of authors whose articles are cited.





- Abrams, S. 1  
 Ajuriaguerra, J. de 2  
 Al-Issa, I. 154, 155  
 Allen, E. B. 3  
 Allen, R. P. 76  
 Alterman, A. I. 4  
 Amado Ledo, E. 5  
 Anant, S. S. 6, 7, 8, 9, 10, 11, 12, 13, 14  
 Anderson, D. 15  
 Andreeva, V. S. 22  
 Andreichikov, S. N. 16  
 Anonymous 17, 18, 19, 20, 21  
 Anvaer, S. I. 22  
 Artunkal, S. 23  
 Ash, W. E. 24  
 Ashem, B. 25  
 Aubertin, E. 26  
  
 Bachet, M. 27  
 Baer, P. E. 221  
 Bandura, A. 28  
 Barlow, D. H. 211  
 Barry, H., III 339  
  
 Beattie, B. 205  
 Beaubrun, M. H. 29  
 Beca, M. F. 30  
 Beese, F. W. 31  
 Bhakta, M. 32  
 Bielinski, B. 316  
 Bigelow, G. 33, 34, 247  
 Binder, S. 35  
 Blachly, P. H. 36  
 Blake, B. G. 37, 38  
 Blanchard, E. B. 39  
 Block, M. A. 40  
 Boittelle, G. 41  
 Boittelle-Lentulo, Cl. 41  
 Book, H. E. 42  
 Boudin, H. M. 43, 158  
 Bovagnet, G. 216  
 Bowman, K. M. 44  
 Braun, F. 45  
 Brierly, H. 46  
 Brown, J. E. 109  
 Broz, W. R. 170, 171, 172, 323, 325, 326, 332  
 Bryant, M. E. 47

- Bugaiskii, I. P. 48  
 Burt, D. W. 49  
 Burtle, V. 67  
 Caddy, G. R. 188, 337  
 Cameroni, V. 50  
 Campbell, D. 192, 267  
 Campbell, L., III 135  
 Campbell, P. 72  
 Carlson, A. J. 51  
 Caron, M. M. 52  
 Carratalá, R. 53, 54  
 Carrère, J. 55, 56, 57  
 Carter, H. R. 58  
 Carver, A. E. 59, 60, 61  
 Catalano-Nobili, C. 62  
 Cautela, J. R. 63, 64, 65  
 Chapman, R. F. 66  
 Charalampous, K. D. 100  
 Cheek, F. E. 67, 68  
 Chevat, H. 69  
 Claeson, L. -E. 70  
 Clancy, J. 71, 72  
 Coda, G. 231  
 Coe, E. 242  
 Cohen, D. J. 73, 74  
 Cohen, M. 33, 75, 76, 77, 78, 79, 183  
 Concha, I. 234  
 Cooper, P. 15  
 Cornil, L. 80, 81, 82  
 Costello, C. G. 83  
 Cotlier, I. 84  
 Caignou, J. -C. 56  
 Cutler, R. E. 300  
 Dany, L. 41  
 Daudet, G. 168  
 Davidson, R. S. 85  
 Davidson, W. S., II 86  
 Davison, G. C. 344  
 Day, H. I. 105  
 Delay, J. 87, 88  
 Dent, J. Y. 89, 90, 91  
 Desruelles, M. 92  
 Devenyi, P. 93, 94  
 Dichter, M. 197  
 Diethelm, O. 280  
 Dobroschke, C. 95  
 Donner, L. 25  
 Dotsenko, S. N. 96  
 Droppa, D. C. 97

- |                 |                                                                                  |                   |                               |
|-----------------|----------------------------------------------------------------------------------|-------------------|-------------------------------|
| Duchêne, H.     | <u>98, 99</u>                                                                    | Franks, C. M.     | 67, <u>119, 120, 121, 122</u> |
| Dunn, R. B.     | <u>100</u>                                                                       | Freedman, B.      | <u>123</u>                    |
| Dvorak, B. A.   | 206, 207                                                                         | Friken, A. A.     | 286                           |
|                 |                                                                                  | Fuller, G. B.     | 201, 202                      |
| Edlin, J. V.    | <u>101, 102</u>                                                                  |                   |                               |
| Egan, M. J.     | 297                                                                              | Galant, J. S.     | <u>124, 125</u>               |
| Eisler, M.      | 213, 214                                                                         | Garfield, A.      | 197                           |
| Elkins, R. L.   | <u>103</u>                                                                       | Gasteau, E.       | 179, 180                      |
| Entin, G. M.    | <u>104</u>                                                                       | Gault, E. I.      | <u>126</u>                    |
| Evans, D. R.    | <u>105</u>                                                                       | Glatt, M. M.      | <u>127</u>                    |
| Ewing, J. A.    | <u>106, 107</u>                                                                  | Gordon, W. W.     | <u>128</u>                    |
|                 |                                                                                  | Götestam, K. G.   | <u>129</u>                    |
| Faillace, L. A. | 33, 75, 76, 77,<br>78, 79, 183                                                   | Gottheil, E.      | 4                             |
| Falkowski, W.   | 133                                                                              | Granone, F.       | <u>130, 131, 132</u>          |
| Farrar, C. H.   | <u>108</u>                                                                       | Grasberger, J. C. | 4                             |
| Feamster, J. H. | <u>109</u>                                                                       | Griffiths, R.     | 247                           |
| Feldmann, H.    | <u>110, 111, 112, 113,</u><br><u>114, 222, 223, 224,</u><br><u>225, 227, 229</u> | Gulkus, S. P.     | 340                           |
| Feldman, M. P.  | 191                                                                              | Hallam, R.        | <u>133</u>                    |
| Fellion, G.     | 92, <u>115</u>                                                                   | Hamburg, S.       | <u>134</u>                    |
| Ferstl, R.      | 336                                                                              | Heath, G.         | 197                           |
| Feuerlein, W.   | <u>116, 117</u>                                                                  | Hedberg, A. G.    | <u>135</u>                    |
| Fiorentini, H.  | 82                                                                               | Heilbrunn, G.     | 101, 102                      |
| Fischer, M.     | <u>118</u>                                                                       | Hemphill, D. P.   | 213                           |
| Fishman, S. T.  | 189                                                                              | Henbest, R.       | 252                           |
|                 |                                                                                  | Hersen, M.        | 209, 213, 214                 |

- Hletko, P. 101,102  
 Hobson, J. A. 136  
 Holzinger, R. 137  
 Hornick, E. J. 279  
 Hsu, J. J. 138  
  
 Ichok, G. 139  
 Izikowitz, S. 140  
  
 Jellinek, E. M. 44  
 Johnson, G. R. 334  
 Johnson, R. H. 101,102  
 Johnston, J. L. 141  
  
 Kabanov, I. P. 142  
 Kant, F. 143,144,145,146  
 Kardos, G. 147  
 Kattwinkel, E. E. 148  
 Kerr, W. S. 250  
 Khanlargin, G. M. 274  
 Kindwall, J. A. 149  
 King, J. P. 150  
 Klotz, B. 80,81  
 K8, S. 151  
 Koller, A. 152  
 Kondas, O. 153  
  
 Kraemer, S. 336  
 Kraft, T. 154,155,156,157  
 Krasilowsky, D. 282  
 Krasnegor, N. A. 158  
 Kroger, W. S. 159  
  
 Laboucarie, J. 160  
 Lake, C. B. 161  
 Lamontagne, Y. 162  
 Lang, A. 203  
 Lanyon, R. I. 163  
 Larkin, E. J. 164  
 Laucius, J. 67  
 Lauzière, C. 165  
 Laverty, S. G. 166,192,267  
 Lazarus, A. A. 167  
 Leger, J. -M. 168  
 Lemere, F. 100,169,170,171,172,  
173,174,175,176,239,  
 240,323,325,326,  
 327  
 Lemieux, L. -H. 177  
 Lereboullet, J. 178,179,180  
 Lesser, E. 181  
 Liabot 246  
 Liberman, R. 182  
 Libet, J. M. 39

- Liebson, I. A. 33, 34, 75, 76,  
77, 78, 79, 183  
 Litmanovitch, A. A. 184  
 Littauer, A. 321  
 Livshitz, L. S. 185  
 Lolli, G. 186  
 López-Ibor Alino, J. J. 187  
 López-Ibor Alino, J. M. 187  
 Lovibond, S. H. 188  
 Lubetkin, B. S. 189  
 Lunde, G. E. 190  
 Lunde, S. E. 333, 334, 335  
  
 MacCulloch, M. J. 191  
 MacCulloch, M. L. 191  
 Madill, M. F. 192  
 Mahoney, J. D. 24  
 Maillefer, J. 195  
 Maletzky, B. M. 193  
 Malm, U. 70  
 Mann, M. 194  
 Martimor, E. 195  
 Martin, L. K. 108  
 Martin, P. L. 333, 334, 335  
 Matveev, V. F. 196  
 McBrearty, J. F. 197  
 McCance, C. 198  
 McCance, P. F. 198  
 McGuire, R. J. 199, 200  
 Merlin, J. - F. 69  
 Merlin, L. 129  
 Mertens, G. C. 201, 202  
 Mestrallet, A. 203  
 Meyers, T. J. 204  
 Mielczarek, G. 205  
 Miller, E. C. 206, 207  
 Miller, M. M. 208  
 Miller, P. M. 209, 210, 211, 212,  
213, 214  
 Mills, K. C. 215, 269  
 Molinier, A. 216  
 Moore, J. N. P. 217, 218  
 Moretti, E. 219  
 Morgan, P. 220  
 Morosko, T. E. 221  
 Morozov, V. M. 22  
 Morsier, G. de 222, 223, 224, 225,  
226, 227, 228, 229  
 Mortimer, R. 137  
 Mosovich, A. 230  
 Mossa, G. 231  
 Mottaheiden, I. 220  
 Mottin, J. L. 232  
 Müller, D. 233



- Mullin, P. 220  
 Muñoz, L. 234  
 Nash, J. F. 235  
 Nathan, P. E. 283  
 Neveu, P. 2, 236  
 O'Brien, J. S. 237  
 O'Hollaren, P. 170, 171, 172, 174, 176, 238, 239, 240  
 Ollivier, H. 80, 81, 82  
 Orford, J. F. 191  
 Patch, V. D. 237  
 Paterson, A. S. 241  
 Pattison, E. M. 242  
 Pecknold, J. C. 243  
 Petrantoni, S. 244  
 Pfeiffer, C. C. 245  
 Phelan, J. G. 73, 74  
 Pichard 246  
 Pichot, P. 87  
 Pickens, R. 247  
 Pihl, R. 294  
 Pochard 56  
 Poser, E. G. 243  
 Powell, B. J. 108  
 Price, G. M. 312  
 Primo, R. V. 163  
 Prokop, H. 248  
 Prout, C. T. 3  
 Pullar-Strecker, H. 249  
 Quinn, J. T. 250, 251, 252  
 Rachman, S. 133, 253, 254, 255, 256  
 Raeburn, J. 243  
 Rathod, N. H. 317  
 Rautio, E. A. 297  
 Raymond, M. J. 257  
 Raynes, A. E. 237  
 Rennie, T. A. C. 258  
 Requet, A. 259  
 Revol, L. 259  
 Revusky, S. 260  
 Rhodes, R. J. 242  
 Rice, A. H. 297  
 Rivers, T. D. 258  
 Rolleston, J. D. 261  
 Rowan, T. 294  
 Rubenstein, C. 262, 263  
 Ruck, F. 264  
 Ruiz, M. 234

- Sacerdoti, G. 265  
 Saint-Jean, H. 234  
 Salter, C. E. 266  
 Sanderson, R. E. 192, 267  
 Sansoy, O. M. 268  
 Schaefer, H. H. 215, 269, 270,  
271  
 Schiller, O. 272  
 Seager, C. P. 273  
 Secchi, S. 30  
 Segal, B. M. 274, 275  
 Serebo, B. 276  
 Sereiskii, M. Y. 277  
 Sereny, G. 94  
 Serzhantova, T. I. 96  
 Shadel, C. A. 278  
 Shanahan, W. M. 279  
 Sherfey, M. J. 280  
 Shirlaw, L. M. 281  
 Shuval, R. 282  
 Silverstein, S. J. 283  
 Singer, L. 41, 284  
 Skipetrov, A. I. 285  
 Skoloda, T. E. 4  
 Sluchevskii, I. F. 286  
 Smith, J. A. 287  
 Smith, J. W. 66, 100  
 Smith-Moorhouse, P. M. 288  
 Sobell, L. C. 289, 290, 291, 292  
 Sobell, M. B. 215, 269, 270, 289,  
290, 291, 292  
 Solms, H. 293  
 Solms, W. 272  
 Speers, W. 75  
 Spevack, M. 294  
 Steck, H. 295  
 Steinfeld, G. J. 296, 297  
 Stojiljković, S. 298  
 Stoner, J. W. 299  
 Storm, T. 300  
 Strel'chuk, I. V. 301, 302, 303  
 Sulzer, E. S. 304  
 Taylor, H. A. 283  
 Tchourumoff, N. 216  
 Teasdale, J. 254, 255, 256  
 Terrell, F. 163  
 Thimann, J. 305, 306, 307, 308,  
309, 310, 311, 312, 313,  
314, 315  
 Thompson, G. N. 316  
 Thomson, I. G. 317  
 Thuillier, J. 87  
 Tiebout, H. M. 318

- Tupper, W. E. 171, 172
- Turek, Z. 319
- Turner, C. C. 320
- Turner, D. W. 206, 207
- Unna, K. 245
- Vallance, M. 199
- Vanderhoof, E. 72
- Vandewater, S. L. 192
- Van Dusen, W. 137
- Varady, T. 321
- Vencovsky, E. 322
- Vestermarck, S. D. 258
- Vidart, L. 179, 180
- Voegtlin, W. L. 169, 170, 171, 172,  
175, 323, 324, 325,  
326, 327, 328, 329,  
330, 331, 332
- Vogler, R. E. 190, 333, 334, 335,  
336, 337
- Vorobiev, V. S. 196
- Wallerstein, R. S. 338
- Wallgren, H. 339
- Walls, R. T. 340
- Ward, R. F. 183
- Watts, J. G. 214
- Wener, A. 163
- Wijesinghe, B. 157
- Williams, E. Y. 341
- Williams, L. 342, 343
- Wilson, G. T. 344
- Wisocki, P. A. 345
- Wolpe, J. 346
- Young, L. D. 39
- Zak, N. N. 22
- Ziegler, L. H. 149
- Zvonikov, M. Z. 347

## KEY WORD INDEX

A listing of the key words used  
to index the bibliography with  
accompanying citation numbers.





## ALPHABETIC KEY WORD LISTING

Note: The numbers on the right refer to the numbers in the Key Word Index.

|                                                                                                                 |       |                                                                                                |       |
|-----------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------|-------|
| <u>Abst.</u> Abstinence (as treatment goal)                                                                     | 18    | calcium carbimide (drug used in treatment)                                                     | 73    |
| <u>Adjuv.</u> Adjunctive (treatment, non-behaviour therapy provided along with the behaviour therapy indicated) | 31    | <u>Classical</u> Classical conditioning (treatment)                                            | 20    |
| <u>Alcoh.</u> Alcoholism (behaviour to be modified)                                                             | 16    | <u>Clin. study</u> Clinical study (content of document)                                        | 6     |
| <u>Apomor.</u> Apomorphine (drug used in treatment)                                                             | 71    | <u>Combin.</u> Combination (treatment consisting of more than one behaviour therapy indicated) | 30    |
| Behaviour to be modified                                                                                        | 16-17 | Content of document                                                                            | 5-9   |
| <u>C</u> Czech language                                                                                         |       | <u>Pos. Reinfor.</u> Contingency management (therapy)                                          | 26    |
| <u>Case disc.</u> Case discussion (content of document)                                                         | 5     | <u>Disc. contraind.</u> Contraindications, discussion of                                       | 36    |
| <u>Chem.</u> Chemical aversion (therapy)                                                                        | 22    | <u>C. R.</u> Cure rate (results of treatment)                                                  | 44-52 |
| <u>Chlordiaz.</u> Chlordiazepoxide (drug used in treatment)                                                     | 72    | <u>Desc. side-effects</u> Side-effects, description of                                         | 34    |
| <u>Cit. Cal. Carb.</u> Citrated                                                                                 |       | <u>Desc. treatm.</u> Treatment, description of                                                 | 35    |
|                                                                                                                 |       | <u>Disc. contraind.</u> Contraindications, discussion of                                       | 36    |
|                                                                                                                 |       | <u>Disc. generaliz.</u> Generali-                                                              |       |

|                                                               |       |                                                                                                       |       |
|---------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------|-------|
| zation of effect, discussion of                               | 37    | <u>Few Ss.</u> Few subjects (5 subjects or less)                                                      | 12    |
| <u>Disc. pharm.</u> Pharmacological aspects, discussion of    | 38    | <u>F. P.</u> Follow-up period (results of treatment)                                                  | 53-58 |
| <u>Disc. probl. pat.</u> Problems of patient, discussion of   | 39    | <u>G</u> German language                                                                              |       |
| <u>Disc. theo. addict.</u> Theory of addiction, discussion of | 40    | <u>Gen.</u> General paper (type of document)                                                          | 2     |
| <u>Disc. theo. treatm.</u> Theory of treatment, discussion of | 41    | <u>Gen. Disc.</u> General discussion (content of document)                                            | 7     |
| <u>Diss.</u> Dissertation (type of document)                  | 1     | <u>Disc. generaliz.</u> Generalization of effect, discussion of                                       | 37    |
| <u>Disul.</u> Disulfiram (drug used in treatment)             | 74    | Goal of treatment                                                                                     | 18-19 |
| <u>D. R.</u> Drop-out rate (results of treatment)             | 65-70 | <u>Goal establis.</u> Goal established (results of treatment, in the opinion of the author[s])        | 42    |
| <u>Drug Addict.</u> Drug addiction (behaviour to be modified) | 17    | <u>Goal N. establis.</u> Goal not established (results of treatment, in the opinion of the author[s]) | 43    |
| Drugs used in treatment                                       | 71-81 | <u>Group</u> Group therapy                                                                            | 33    |
| <u>E</u> English language                                     |       | <u>H</u> Hungarian language                                                                           |       |
| <u>Electro.</u> Electric aversion (therapy)                   | 23    | <u>Hypn. (aver.)</u> Hypnotic aversion (therapy)                                                      | 24    |
| <u>Emetine</u> Emetine (drug used in treatment)               | 75    | <u>Hypn. (gen.)</u> Hypnosis (therapy)                                                                | 25    |
| <u>Ephedrine</u> Ephedrine (drug used in treatment)           | 76    | <u>I</u> Italian language                                                                             |       |
| <u>F</u> French language                                      |       |                                                                                                       |       |
| <u>Female</u> Female (subjects)                               | 14    |                                                                                                       |       |

|                                                            |    |                                                             |       |
|------------------------------------------------------------|----|-------------------------------------------------------------|-------|
| <u>Indiv.</u> Individual therapy                           | 32 | <u>Po</u> Polish language                                   |       |
| <u>Pat.</u> In-patient (subjects)                          | 11 | Points of discussion                                        | 34-41 |
| <u>Lett. ed.</u> Letter to the editor (type of document)   | 3  | <u>Pos. Reinfor.</u> Contingency management (therapy)       | 26    |
|                                                            |    | <u>Disc. probl. pat.</u> Problems of patient, discussion of | 39    |
| <u>Male</u> Male (subjects)                                | 15 | <u>R</u> Russian language                                   |       |
| <u>Metroni.</u> Metronidazole (drug used in treatment)     | 77 | <u>R. R.</u> Relapse rate (results of treatment)            | 59-64 |
| <u>Mod.</u> Moderation (as treatment goal)                 | 19 | <u>Relax.</u> Relaxation (therapy)                          | 27    |
| <u>More Ss.</u> More subjects (more than 5 subjects)       | 13 | <u>Res.</u> Research paper (type of document)               | 4     |
|                                                            |    | Results of treatment                                        | 42-70 |
| <u>Nicot. Acid</u> Nicotinic acid (drug used in treatment) | 78 | <u>Review</u> Literature review (content of document)       | 8     |
| <u>Operant</u> Operant conditioning (treatment)            | 21 | <u>S</u> Swedish language                                   |       |
| <u>Out-pat.</u> Out-patient (subjects)                     | 10 | <u>Desc. side-effects</u> Side-effects, description of      | 34    |
|                                                            |    | <u>Sp</u> Spanish language                                  |       |
| <u>Pat.</u> In-patient (subjects)                          | 11 | Subjects                                                    | 10-15 |
| <u>Disc. pharm.</u> Pharmacological aspects, discussion of | 38 | <u>Succinyl.</u> Succinylcholine (drug used in treatment)   | 80    |
| <u>Pilocar.</u> Pilocarpine (drug used in treatment)       | 79 | <u>Syst. desens.</u> Systematic desensitization (therapy)   | 28    |
|                                                            |    | <u>T</u> Turkish language                                   |       |
|                                                            |    | <u>Tables</u> Tables (content of                            |       |

|                                                                  |       |
|------------------------------------------------------------------|-------|
| document)                                                        | 9     |
| <u>Disc. theo. addict.</u> Theory<br>of addiction, discussion of | 40    |
| <u>Disc. theo. treatm.</u> Theory<br>of treatment, discussion of | 41    |
| Therapies                                                        | 22-33 |
| Treatment                                                        | 20-21 |
| <u>Desc. treatm.</u> Treatment,<br>description of                | 35    |
| <u>Trifluo.</u> Trifluoperazine<br>(drug used in treatment)      | 81    |
| Type of document                                                 | 1-4   |
| <u>Vis.-verbal</u> Visual-verbal<br>aversion (therapy)           | 29    |

## TYPE OF DOCUMENT

1. diss. dissertation  
299
2. gen. general paper  
1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14,  
15, 16, 17, 18, 19, 21, 23, 24, 26,  
27, 28, 31, 32, 35, 36, 37, 40, 41,  
42, 43, 44, 45, 47, 48, 50, 51, 53,  
54, 55, 56, 57, 58, 59, 61, 62, 63,  
64, 65, 66, 71, 80, 81, 82, 83, 84,  
85, 86, 87, 88, 89, 90, 91, 92, 93,  
95, 96, 97, 98, 99, 100, 101, 102,  
103, 105, 106, 107, 109, 110, 111,  
112, 114, 115, 116, 117, 118, 119, 120,  
121, 122, 123, 124, 125, 126, 129,  
130, 131, 132, 134, 136, 139, 140,  
142, 143, 144, 145, 146, 147, 148,  
149, 150, 151, 152, 153, 156, 157,  
158, 160, 161, 162, 164, 165, 166,  
167, 168, 170, 172, 173, 177, 180,  
181, 182, 184, 185, 186, 187, 190,  
194, 195, 196, 197, 200, 201, 202,  
204, 208, 210, 211, 212, 217, 218,  
219, 222, 223, 224, 226, 227, 228,  
230, 231, 232, 233, 235, 236, 238,  
240, 241, 243, 244, 245, 246, 247,  
248, 249, 251, 253, 254, 255, 256,  
257, 258, 259, 260, 261, 262, 263,  
264, 265, 266, 272, 273, 274, 275,  
276, 278, 279, 280, 284, 285, 286,  
287, 288, 293, 294, 295, 296, 297,  
301, 303, 304, 305, 306, 307, 308,  
309, 310, 311, 312, 313, 314, 315,  
316, 318, 320, 321, 322, 323, 326,  
327, 328, 329, 330, 331, 332, 335,

337, 339, 340, 341, 342, 344, 345,  
346, 347

3. lett. ed. letter to the editor  
20, 46, 60, 68, 127, 159, 205, 220,  
281
4. res. research paper  
4, 8, 22, 25, 29, 30, 33, 34, 38, 39,  
49, 52, 67, 69, 70, 72, 73, 74, 75, 76,  
77, 78, 79, 94, 104, 108, 128, 133, 135,  
137, 141, 154, 155, 163, 169, 171, 174,  
175, 176, 178, 179, 183, 188, 189, 191,  
192, 193, 198, 199, 203, 206, 207, 209,  
213, 214, 215, 216, 221, 225, 229, 234,  
237, 239, 242, 250, 252, 267, 268,  
269, 270, 271, 277, 282, 283, 289,  
290, 291, 292, 298, 300, 302, 317,  
319, 324, 325, 333, 334, 336, 338,  
343

## CONTENT OF DOCUMENT

5. case disc. case discussion  
6, 13, 14, 42, 43, 47, 50, 56, 63, 66,  
88, 89, 91, 109, 126, 129, 141, 148,  
151, 155, 167, 169, 180, 192, 199, 210,  
214, 224, 243, 247, 249, 257, 262,  
263, 304, 308, 312, 313, 316, 320,  
345, 346, 347
6. clin. study clinical study  
4, 7, 8, 9, 13, 22, 25, 30, 31, 33, 34,  
37, 38, 39, 41, 49, 52, 55, 56, 67, 69,  
70, 73, 75, 76, 77, 78, 79, 94, 95, 99,  
101, 104, 105, 108, 112, 114, 125, 128,  
133, 135, 137, 138, 141, 153, 154, 155,  
157, 163, 166, 171, 174, 175, 176, 178,



179, 180, 182, 183, 188, 189, 191, 192,  
193, 196, 198, 199, 203, 206, 207,  
208, 209, 213, 214, 215, 216, 219,  
221, 222, 225, 226, 227, 229, 234,  
236, 237, 239, 240, 242, 244, 250,  
252, 264, 267, 268, 269, 270, 271,  
277, 279, 282, 283, 289, 290, 291,  
292, 294, 295, 297, 298, 299, 300,  
302, 310, 316, 317, 319, 324, 325,  
333, 334, 335, 336, 338, 343, 347

7. gen. disc. general discussion

1, 2, 3, 5, 10, 11, 12, 15, 16, 17, 18,  
19, 20, 21, 23, 24, 26, 27, 28, 32,  
35, 36, 40, 44, 45, 46, 47, 48, 50,  
51, 53, 54, 57, 58, 59, 60, 61, 62,  
64, 65, 68, 71, 80, 81, 82, 83, 84,  
85, 87, 88, 89, 90, 91, 92, 93, 96,  
98, 99, 100, 102, 107, 110, 111, 115,  
116, 117, 118, 119, 121, 122, 123, 124,  
127, 130, 131, 132, 134, 136, 139,  
140, 142, 143, 144, 145, 146, 147,  
149, 150, 152, 156, 158, 159, 160,  
161, 162, 164, 165, 167, 168, 170,  
172, 173, 177, 181, 184, 185, 186,  
187, 190, 194, 195, 200, 201, 202,  
204, 205, 208, 211, 217, 218, 220,  
223, 224, 230, 231, 232, 233, 235,  
238, 241, 245, 246, 248, 251, 253,  
254, 255, 256, 257, 258, 259, 260,  
261, 266, 272, 273, 274, 275, 276,  
278, 280, 281, 284, 285, 286, 287,  
288, 293, 296, 301, 303, 305, 306,  
307, 309, 311, 313, 314, 315, 318,  
321, 322, 323, 326, 327, 328, 329,  
330, 331, 332, 337, 339, 340, 341,  
342, 344

8. review literature review

1, 28, 44, 83, 86, 97, 103, 106, 119,

120, 122, 134, 164, 212, 228, 232,  
254, 265, 327

9. tables tables (of statistics)  
4, 25, 28, 30, 31, 33, 37, 38, 44, 64,  
72, 75, 98, 113, 114, 116, 157, 163,  
164, 180, 183, 188, 192, 198, 199, 215,  
223, 227, 228, 234, 239, 242, 247,  
253, 270, 290, 291, 292, 293, 302,  
326, 332, 334

## SUBJECTS

10. out-pat. out-patients  
7, 21, 30, 35, 41, 42, 43, 45, 47, 52,  
59, 63, 65, 68, 89, 91, 98, 101, 102,  
107, 117, 135, 154, 158, 165, 167, 181,  
185, 188, 191, 196, 204, 210, 214, 221,  
242, 266, 274, 275, 288, 294, 298,  
303, 304, 309, 345, 346
11. pat. in-patients  
2, 4, 6, 11, 13, 14, 15, 18, 21, 22, 24,  
25, 26, 27, 29, 30, 31, 33, 34, 35, 37,  
38, 39, 41, 48, 49, 50, 57, 58, 59, 62,  
70, 72, 73, 74, 75, 76, 77, 78, 79,  
81, 82, 85, 88, 89, 92, 94, 95, 96, 99,  
100, 101, 102, 104, 105, 108, 109, 111,  
112, 114, 115, 117, 118, 124, 125, 128,  
132, 133, 136, 137, 140, 141, 142, 145,  
146, 147, 148, 152, 153, 155, 160, 161,  
163, 166, 168, 171, 172, 173, 174, 175,  
176, 178, 179, 180, 182, 183, 187, 191,  
192, 195, 197, 198, 202, 203, 206,  
207, 209, 213, 215, 216, 217, 219, 222,  
223, 224, 225, 226, 227, 228, 229,  
230, 231, 234, 237, 238, 240, 242,  
243, 246, 247, 248, 250, 257, 258,  
259, 262, 263, 264, 266, 267, 268,  
269, 270, 271, 274, 277, 278, 279,

- 282, 283, 286, 289, 290, 291, 292,  
294, 295, 296, 297, 300, 301, 302,  
303, 305, 307, 308, 310, 311, 312,  
313, 314, 315, 316, 317, 319, 320,  
321, 322, 324, 325, 326, 330, 332,  
333, 334, 335, 336, 337, 338, 341,  
343, 347
12. few Ss. few subjects (5 sub-  
jects or less)  
6, 7, 11, 12, 14, 27, 34, 39, 42, 43,  
47, 55, 63, 66, 75, 76, 77, 78, 79,  
88, 91, 105, 109, 126, 129, 131, 148,  
151, 154, 155, 156, 167, 169, 181, 182,  
183, 189, 191, 205, 209, 210, 214,  
221, 236, 237, 243, 247, 249, 257,  
262, 263, 283, 294, 304, 308, 312,  
313, 320, 336, 345, 346
13. more Ss. more subjects  
(more than 5 subjects)  
4, 8, 9, 10, 13, 22, 24, 25, 29, 30,  
31, 32, 33, 35, 37, 38, 41, 48, 49,  
50, 52, 56, 57, 62, 67, 70, 72, 73,  
74, 81, 85, 94, 95, 96, 98, 99, 101,  
102, 104, 107, 108, 110, 111, 112, 114,  
115, 125, 128, 133, 135, 137, 138,  
140, 141, 145, 146, 150, 153, 157, 162,  
163, 166, 170, 171, 172, 175, 176, 178,  
179, 180, 185, 188, 192, 193, 196,  
197, 198, 203, 206, 207, 208, 213,  
215, 216, 219, 222, 224, 225, 226,  
227, 228, 229, 231, 235, 238, 240,  
242, 250, 252, 258, 259, 264, 267,  
268, 269, 270, 271, 274, 275, 277,  
279, 282, 284, 288, 289, 290, 291,  
292, 295, 296, 297, 298, 299, 300,  
302, 305, 310, 311, 314, 315, 316,  
317, 319, 321, 324, 325, 326, 328,  
329, 330, 332, 333, 334, 335, 338,  
341, 343
14. female female  
9, 13, 15, 22, 29, 31, 32, 37, 38, 43,  
47, 49, 58, 63, 67, 68, 89, 96, 98,  
101, 117, 126, 129, 133, 135, 158, 170,  
182, 184, 188, 191, 192, 193, 197, 208,  
216, 222, 225, 227, 237, 239, 240,  
243, 257, 262, 263, 264, 267, 268,  
277, 279, 289, 310, 314, 315, 316,  
317, 320, 324, 326, 332, 336, 341,  
343
15. male male  
4, 6, 7, 8, 9, 11, 12, 13, 14, 15, 22, 25,  
29, 31, 32, 33, 34, 37, 38, 39, 42, 47,  
48, 49, 55, 58, 66, 68, 70, 73, 74, 75,  
76, 77, 78, 79, 89, 91, 94, 95, 96, 98,  
101, 104, 105, 108, 109, 117, 124, 133,  
135, 137, 138, 141, 148, 154, 155, 156,  
158, 163, 167, 169, 170, 181, 182, 183,  
188, 189, 191, 192, 193, 196, 197, 198,  
205, 206, 207, 208, 209, 210, 213, 214,  
215, 216, 221, 222, 225, 227, 237, 239,  
240, 241, 243, 247, 249, 250, 257,  
262, 263, 264, 267, 268, 269, 270,  
271, 277, 279, 282, 283, 289, 290,  
291, 292, 294, 296, 297, 304, 308,  
310, 312, 313, 314, 315, 316, 317, 320,  
324, 326, 332, 333, 334, 336, 341,  
343, 345, 346
- BEHAVIOUR TO BE MODIFIED
16. alcho. alcoholism  
1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,  
15, 16, 17, 18, 19, 20, 21, 22, 23, 24,  
25, 26, 27, 28, 29, 30, 31, 32, 33, 34,  
35, 37, 38, 40, 41, 44, 45, 46, 47, 48,  
49, 50, 51, 52, 53, 54, 55, 56, 57, 58,

- 59, 60, 61, 62, 63, 64, 65, 66, 67,  
68, 69, 70, 71, 72, 73, 74, 75, 76,  
77, 78, 79, 80, 81, 82, 83, 84, 85,  
86, 87, 88, 89, 90, 91, 92, 93, 94,  
95, 96, 97, 98, 99, 100, 101, 102,  
103, 104, 105, 106, 107, 108, 109,  
110, 111, 112, 113, 114, 115, 116, 117,  
118, 119, 120, 121, 122, 123, 124, 125,  
126, 127, 128, 130, 131, 132, 133, 134,  
135, 136, 137, 138, 139, 140, 141, 142,  
143, 144, 145, 146, 147, 148, 149,  
150, 151, 152, 153, 154, 155, 156,  
157, 159, 160, 161, 163, 164, 165,  
166, 167, 168, 169, 170, 171, 172,  
173, 174, 175, 176, 177, 178, 179,  
180, 183, 184, 185, 186, 187, 188,  
190, 191, 192, 193, 194, 195, 196,  
197, 198, 199, 200, 201, 202, 203,  
204, 205, 206, 207, 208, 209, 210,  
211, 213, 214, 215, 216, 217, 218,  
219, 220, 221, 222, 223, 224, 225,  
226, 227, 228, 229, 230, 231, 232,  
233, 234, 235, 236, 238, 239, 240,  
241, 242, 244, 245, 246, 247, 248,  
249, 250, 251, 252, 253, 254, 255,  
256, 257, 258, 259, 260, 261, 264,  
265, 266, 267, 268, 269, 270, 271,  
272, 273, 274, 275, 276, 277, 278,  
279, 280, 281, 282, 283, 284, 285,  
286, 287, 288, 289, 290, 291, 292,  
293, 295, 298, 299, 300, 301, 302,  
303, 304, 305, 306, 307, 308, 309,  
310, 311, 312, 313, 314, 315, 316,  
318, 319, 320, 321, 322, 323, 324,  
325, 326, 327, 328, 329, 330, 331,  
332, 333, 334, 335, 336, 337, 338,  
339, 341, 342, 343, 344, 347
17. drug addict. drug addiction  
13, 36, 39, 42, 43, 68, 97, 129, 130,

132, 158, 162, 181, 182, 189, 193, 200,  
212, 237, 243, 257, 262, 263, 294,  
296, 297, 317, 340, 345, 346

### GOAL OF TREATMENT

18. abst. abstinence  
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,  
14, 15, 16, 18, 19, 20, 21, 22, 23, 24,  
25, 26, 27, 28, 29, 30, 31, 32, 35, 36,  
37, 38, 39, 40, 41, 42, 43, 44, 45, 46,  
47, 48, 49, 50, 51, 52, 53, 54, 55, 56,  
57, 58, 59, 60, 61, 62, 63, 64, 65, 67,  
69, 70, 71, 72, 73, 74, 75, 80, 81, 82,  
83, 84, 85, 86, 87, 88, 89, 90, 91, 92,  
94, 95, 96, 98, 99, 100, 101, 102, 103,  
104, 105, 106, 108, 109, 110, 111, 112,  
113, 114, 115, 116, 117, 118, 119, 121, 122,  
123, 124, 125, 126, 127, 129, 130, 131,  
132, 133, 134, 135, 136, 137, 138, 139,  
140, 141, 142, 143, 144, 145, 146, 147,  
148, 149, 150, 151, 152, 153, 156, 157,  
158, 159, 160, 161, 162, 163, 164, 165,  
166, 167, 168, 169, 170, 171, 172, 173,  
174, 175, 176, 177, 178, 179, 180, 181,  
182, 184, 185, 186, 187, 189, 190, 191,  
192, 193, 194, 195, 196, 197, 198, 199,  
200, 201, 202, 203, 204, 205, 206,  
207, 208, 209, 211, 212, 213, 214, 216,  
217, 218, 219, 220, 221, 222, 223,  
224, 225, 226, 227, 228, 229, 230,  
231, 232, 233, 234, 235, 236, 237,  
238, 239, 240, 241, 242, 243, 244,  
245, 246, 248, 249, 250, 251, 252,  
253, 254, 255, 256, 257, 258, 259,  
261, 262, 263, 264, 265, 267, 268,  
269, 270, 272, 273, 274, 275, 276,  
277, 278, 279, 280, 281, 282, 285,  
286, 287, 288, 290, 291, 292, 293,

294, 295, 296, 297, 298, 299, 300,  
301, 302, 303, 304, 305, 307, 308,  
309, 310, 311, 312, 313, 314, 315,  
316, 317, 318, 319, 320, 321, 322,  
323, 324, 325, 326, 327, 328, 329,  
330, 331, 332, 333, 334, 335, 336,  
338, 339, 340, 341, 342, 343, 344,  
345, 346, 347

19. mod. moderation

33, 34, 76, 77, 78, 79, 93, 103, 106,  
107, 128, 134, 135, 154, 155, 164,  
183, 188, 202, 210, 211, 215, 242,  
247, 251, 271, 283, 289, 290, 292,  
337

### TREATMENT

20. classical classical condi-  
tioning

1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13,  
14, 15, 16, 17, 18, 19, 20, 21, 22, 23,  
24, 25, 26, 27, 28, 29, 30, 31, 32,  
36, 37, 38, 39, 40, 41, 42, 44, 45,  
46, 48, 49, 50, 51, 52, 53, 54, 57,  
58, 59, 60, 61, 62, 63, 64, 65, 66,  
68, 69, 70, 71, 72, 73, 74, 80, 81,  
82, 83, 84, 85, 86, 87, 88, 89, 90,  
91, 92, 94, 95, 96, 97, 99, 100, 101,  
102, 103, 104, 106, 108, 109, 110,  
111, 112, 113, 114, 115, 118, 119, 120,  
121, 122, 123, 124, 125, 126, 127,  
128, 129, 130, 131, 132, 133, 134,  
135, 136, 137, 138, 139, 140, 141,  
142, 143, 144, 145, 146, 147, 148,  
149, 150, 151, 152, 154, 155, 156,  
157, 159, 160, 161, 162, 163, 164,  
165, 166, 167, 168, 169, 170, 171,  
172, 173, 174, 175, 176, 177, 178,

179, 180, 181, 182, 183, 184, 185, 186,  
187, 188, 189, 190, 191, 192, 193, 194,  
195, 196, 197, 198, 199, 200, 201,  
203, 204, 205, 206, 207, 208, 209,  
211, 212, 213, 214, 216, 217, 218, 219,  
220, 221, 222, 223, 224, 225, 226,  
227, 228, 229, 230, 231, 232, 234,  
235, 236, 237, 238, 239, 240, 241,  
242, 243, 244, 245, 246, 249, 250,  
251, 252, 253, 254, 255, 256, 257,  
258, 259, 260, 261, 262, 263, 265,  
266, 267, 269, 270, 271, 272, 273,  
274, 275, 276, 277, 278, 279, 280,  
281, 282, 285, 286, 287, 288, 290,  
291, 292, 293, 294, 295, 296, 297,  
298, 299, 300, 301, 302, 303, 305,  
306, 307, 308, 309, 310, 311, 312, 313,  
314, 315, 316, 317, 318, 319, 320, 321,  
322, 323, 324, 325, 326, 327, 328,  
329, 330, 331, 332, 333, 334, 335,  
336, 337, 338, 339, 340, 341, 342,  
343, 344, 347

21. operant operant conditioning

4, 33, 34, 43, 55, 56, 75, 76, 77, 78,  
79, 97, 105, 106, 107, 119, 120, 121,  
122, 134, 158, 164, 201, 202, 210, 211,  
215, 247, 266, 283, 304, 340, 345,  
346

### THERAPIES

22. chem. chemical aversion

1, 2, 3, 5, 15, 16, 17, 18, 19, 20, 21, 22,  
23, 24, 26, 28, 29, 30, 31, 39, 40, 41,  
44, 45, 48, 49, 50, 51, 52, 53, 54, 58,  
59, 60, 61, 62, 69, 72, 81, 82, 83, 86,  
87, 88, 89, 90, 91, 92, 95, 96, 97, 98,  
99, 100, 101, 102, 103, 104, 106, 108,

- 110, 111, 112, 113, 114, 115, 116, 117,  
118, 119, 120, 121, 122, 124, 125, 127,  
128, 136, 137, 139, 140, 141, 142,  
144, 145, 146, 147, 148, 149, 151,  
152, 153, 156, 160, 161, 162, 165,  
166, 168, 169, 170, 171, 172, 173,  
174, 175, 176, 177, 178, 179, 180,  
182, 184, 186, 187, 190, 192, 194,  
195, 196, 200, 201, 203, 206, 207,  
208, 211, 212, 216, 217, 218, 219,  
222, 223, 224, 225, 226, 227, 228,  
229, 230, 231, 232, 233, 235, 236,  
238, 239, 240, 241, 244, 245, 246,  
248, 249, 250, 251, 252, 253, 254,  
256, 257, 258, 259, 260, 264, 265,  
266, 267, 268, 272, 273, 274, 275,  
277, 278, 279, 280, 281, 282, 284,  
285, 286, 287, 293, 295, 298, 301,  
302, 303, 306, 307, 309, 310, 311,  
312, 314, 315, 316, 317, 318, 319, 320,  
321, 322, 323, 324, 325, 326, 327,  
328, 329, 331, 332, 339, 341, 342,  
343, 344, 347
23. electro. electric aversion  
28, 32, 35, 36, 37, 38, 42, 46, 66,  
70, 73, 74, 85, 86, 93, 94, 97, 103,  
105, 106, 116, 117, 120, 121, 122, 126,  
133, 134, 135, 138, 149, 156, 158,  
162, 164, 165, 167, 181, 188, 189, 190,  
191, 198, 199, 200, 201, 205, 209,  
211, 212, 213, 215, 220, 221, 234,  
237, 248, 251, 253, 255, 256, 266,  
271, 273, 276, 290, 291, 292, 294,  
327, 333, 334, 335, 336, 337, 339,  
340, 344, 346
24. hypn. (aver.) hypnotic aver-  
sion  
1, 27, 35, 42, 84, 109, 116, 117, 120,  
130, 131, 132, 159, 185, 204, 208,  
288, 295, 303
25. hypn. (gen.) hypnosis (gen-  
eral)  
27, 35, 47, 109, 132, 154, 155, 159,  
185, 266, 288, 303, 327
26. pos. reinfor. contingency  
management (positive rein-  
forcement)  
4, 21, 33, 34, 43, 75, 76, 77, 78, 79,  
106, 107, 120, 122, 134, 158, 164,  
183, 201, 202, 210, 211, 214, 247,  
248, 283, 304, 340
27. relax. relaxation  
6, 7, 8, 9, 10, 12, 13, 14, 25, 27, 37,  
38, 64, 68, 106, 116, 120, 122, 134,  
135, 162, 181, 193, 201, 202, 211, 212,  
237, 243, 255, 288, 296, 297, 300
28. syst. desens. systematic  
desensitization  
10, 25, 35, 68, 80, 116, 117, 120, 122,  
134, 135, 154, 155, 157, 162, 163,  
167, 211, 212, 237, 243, 247, 248,  
294, 300
29. vis. -verbal visual-verbal  
aversion  
6, 7, 8, 9, 12, 13, 14, 39, 57, 63, 64,  
65, 97, 103, 104, 106, 120, 122, 129,  
134, 135, 156, 163, 193, 211, 212, 237,  
256, 269, 270, 296, 297, 340, 345
30. combin. combination (treat-  
ment consisting of more than  
one behaviour therapy indi-  
cated)  
1, 6, 7, 8, 9, 10, 12, 13, 14, 25, 27, 35,  
37, 38, 39, 64, 68, 97, 98, 104, 109,



116, 117, 120, 134, 154, 155, 158,  
159, 163, 167, 181, 197, 201, 202,  
212, 222, 233, 237, 243, 247, 248,  
255, 288, 295, 296, 300

288, 289, 295, 296, 297, 298, 319,  
334

## POINTS OF DISCUSSION

31. adjuv. adjunctive (treatment, non-behaviour therapy provided along with the behaviour therapy indicated)  
2, 15, 23, 29, 31, 47, 49, 50, 51, 59, 82, 84, 96, 110, 111, 118, 119, 120, 121, 123, 126, 140, 147, 152, 153, 158, 159, 171, 174, 175, 176, 182, 184, 189, 193, 194, 204, 208, 218, 225, 229, 231, 234, 238, 241, 245, 250, 258, 264, 272, 275, 278, 279, 293, 301, 302, 303, 307, 308, 309, 310, 311, 314, 317, 318, 319, 322, 329, 330, 337, 338, 341, 343, 346
32. indiv. individual therapy  
6, 8, 9, 11, 13, 14, 16, 30, 35, 37, 39, 41, 42, 47, 51, 58, 59, 63, 66, 68, 72, 75, 77, 82, 84, 86, 91, 98, 101, 103, 108, 109, 112, 113, 114, 115, 117, 120, 125, 126, 128, 137, 138, 139, 140, 141, 144, 148, 154, 155, 158, 162, 163, 166, 167, 171, 178, 180, 181, 182, 187, 189, 192, 193, 196, 197, 199, 200, 203, 208, 209, 223, 224, 226, 227, 228, 229, 231, 233, 234, 237, 247, 257, 262, 263, 264, 267, 282, 288, 290, 291, 292, 296, 313, 316, 317, 322, 324, 331, 333, 336, 345
33. group group therapy  
1, 4, 7, 8, 9, 13, 33, 35, 36, 37, 68, 76, 78, 79, 86, 92, 95, 96, 103, 107, 113, 114, 120, 136, 158, 197, 206, 207, 215, 269, 270, 271, 283, 288, 289, 295, 296, 297, 298, 319, 334
34. desc. side-effects side-effects, description of  
22, 31, 46, 65, 69, 83, 92, 95, 101, 115, 116, 120, 121, 125, 128, 138, 148, 174, 208, 216, 228, 233, 243, 251, 253, 267, 268, 277, 279, 280, 282, 287, 288, 298, 301, 307, 314, 315, 322, 324, 329
35. desc. treatm. treatment, description of  
1, 2, 3, 4, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 18, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 72, 73, 74, 75, 76, 77, 78, 79, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 95, 96, 99, 100, 101, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 122, 124, 125, 126, 128, 129, 130, 131, 132, 134, 135, 136, 137, 138, 139, 140, 141, 142, 144, 145, 146, 147, 149, 151, 152, 154, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 171, 174, 175, 176, 177, 178, 179, 180, 181, 182, 184, 185, 186, 187, 188, 189, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 216, 218, 219, 221, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 234, 235, 236, 237, 238, 240, 241, 243, 246, 247, 249, 250,

- 251, 254, 255, 257, 258, 259, 261, 262, 263, 264, 265, 267, 268, 269, 272, 274, 275, 276, 277, 278, 279, 280, 282, 283, 285, 286, 287, 289, 290, 292, 294, 295, 296, 297, 298, 301, 302, 303, 304, 307, 310, 311, 312, 313, 314, 315, 317, 319, 320, 321, 322, 323, 324, 329, 330, 331, 334, 336, 337, 339, 340, 341, 343, 345, 346, 347
36. disc. contraind. contraindications, discussion of  
1, 16, 24, 48, 52, 58, 83, 89, 97, 104, 115, 120, 128, 161, 170, 171, 184, 207, 208, 228, 235, 241, 251, 279, 280, 282, 285, 287, 301, 302, 307, 311, 315, 320, 324
37. disc. generaliz. generalization of effect, discussion of  
2, 6, 14, 24, 31, 49, 52, 63, 64, 65, 73, 74, 76, 82, 87, 88, 113, 114, 116, 119, 126, 128, 166, 169, 171, 207, 209, 213, 221, 223, 224, 233, 235, 246, 248, 251, 252, 254, 267, 296, 311, 323, 324, 328
38. disc. pharm. pharmacological aspects, discussion of  
1, 19, 20, 89, 114, 119, 136, 223, 226, 227, 228, 235, 253, 264, 282, 301, 307, 314, 315, 323
39. disc. probl. pat. problems of patient, discussion of  
13, 39, 43, 44, 58, 63, 97, 105, 109, 115, 119, 128, 141, 149, 153, 154, 157, 167, 170, 181, 203, 249, 262, 263, 282, 304, 308, 312, 313, 320, 330, 338, 343, 345
40. disc. theo. addict. theory of addiction, discussion of  
9, 28, 37, 44, 61, 71, 76, 90, 91, 97, 98, 105, 119, 120, 121, 122, 123, 132, 134, 147, 164, 167, 172, 201, 202, 256, 279, 280, 300, 311, 314, 318, 330, 346
41. disc. theo. treatm. theory of treatment, discussion of  
5, 12, 17, 28, 32, 37, 40, 42, 44, 49, 53, 54, 60, 61, 63, 64, 76, 80, 86, 90, 93, 97, 98, 101, 103, 107, 119, 120, 121, 122, 123, 127, 130, 131, 132, 133, 134, 139, 143, 147, 158, 160, 164, 165, 166, 167, 173, 174, 186, 190, 192, 193, 200, 201, 202, 207, 211, 212, 232, 242, 252, 253, 254, 255, 256, 267, 273, 276, 280, 281, 283, 288, 290, 293, 306, 307, 310, 318, 320, 322, 323, 325, 327, 331, 337, 342, 343, 344, 345
- RESULTS OF TREATMENT**
42. goal establis. goal established (in the opinion of the author[s])  
6, 7, 8, 9, 10, 11, 12, 13, 14, 22, 24, 33, 34, 35, 37, 38, 39, 43, 47, 55, 57, 62, 63, 64, 70, 72, 75, 76, 77, 78, 79, 81, 85, 88, 89, 91, 95, 96, 99, 101, 104, 105, 109, 112, 113, 115, 116, 118, 124, 128, 129, 133, 135, 139, 145, 146, 149, 150, 151, 154, 155, 159, 161, 167, 169, 170, 171, 172, 174, 175, 176, 178, 179, 180, 181, 182, 188, 189, 196, 197, 203, 205, 206, 207, 208, 209, 210, 214, 215, 222, 225, 226, 227,

- 228, 229, 236, 237, 238, 239, 243, 245, 247, 249, 258, 262, 263, 264, 267, 268, 271, 274, 275, 277, 278, 279, 282, 288, 289, 290, 291, 292, 295, 297, 302, 304, 305, 306, 308, 310, 311, 312, 313, 314, 315, 316, 317, 319, 320, 324, 325, 326, 328, 330, 331, 332, 333, 335, 336, 338, 341, 343, 345
43. goal n. establis. goal not established (in the opinion of the author[s])  
49, 66, 67, 94, 125, 126, 137, 138, 141, 191, 221, 250, 269, 270, 283, 334, 346
44. c. r. , 10 cure rate, 0-20%  
32, 41, 101, 137, 138, 141, 250, 268, 269, 274, 284, 341
45. c. r. , 25 cure rate, 21-30%  
70, 98, 102, 270, 319, 338
46. c. r. , 35 cure rate, 31-40%  
22, 25, 85, 96, 110, 111, 113, 114, 196, 229, 277, 295
47. c. r. , 45 cure rate, 41-50%  
29, 31, 57, 95, 170, 171, 203, 224, 225, 226, 227, 223, 239, 284, 326, 332, 343
48. c. r. , 55 cure rate, 51-60%  
37, 38, 99, 115, 135, 174, 175, 176, 207, 222, 238, 288, 300, 302, 310, 311, 314, 315, 320, 328, 334
49. c. r. , 65 cure rate, 61-70%  
24, 81, 128, 129, 133, 140, 146, 150, 179, 180, 264, 279, 282, 298, 324
50. c. r. , 75 cure rate, 71-80%  
64, 112, 163, 172, 178, 188, 240, 258, 271
51. c. r. , 85 cure rate, 81-90%  
145, 208, 305, 317, 325, 330
52. c. r. , 95 cure rate, 91-100%  
7, 8, 115, 237, 243, 336
53. f. p. , 3m. follow-up period, 1-6 months  
22, 24, 25, 31, 37, 38, 64, 105, 115, 128, 133, 135, 137, 138, 150, 155, 178, 180, 210, 250, 269, 275, 277, 282, 343, 346
54. f. p. , 9m. follow-up period, 7-12 months  
8, 38, 96, 98, 101, 102, 108, 110, 111, 115, 141, 155, 163, 179, 181, 196, 207, 208, 225, 238, 270, 274, 288, 300, 334, 336
55. f. p. , 1y. follow-up period, 13-24 months  
8, 32, 39, 41, 43, 70, 85, 94, 114, 140, 154, 175, 203, 229, 240, 247, 264, 271, 298, 314, 315, 319, 333
56. f. p. , 2y. follow-up period, 25-36 months  
14, 145, 172, 222, 258, 330, 338
57. f. p. , 3y. follow-up period, 37-48 months  
109, 170, 324
58. f. p. , 4y. or more follow-up period, 48 or more months  
29, 171, 239, 326, 328, 332
59. r. r. , 3 relapse rate, 1-5%  
115

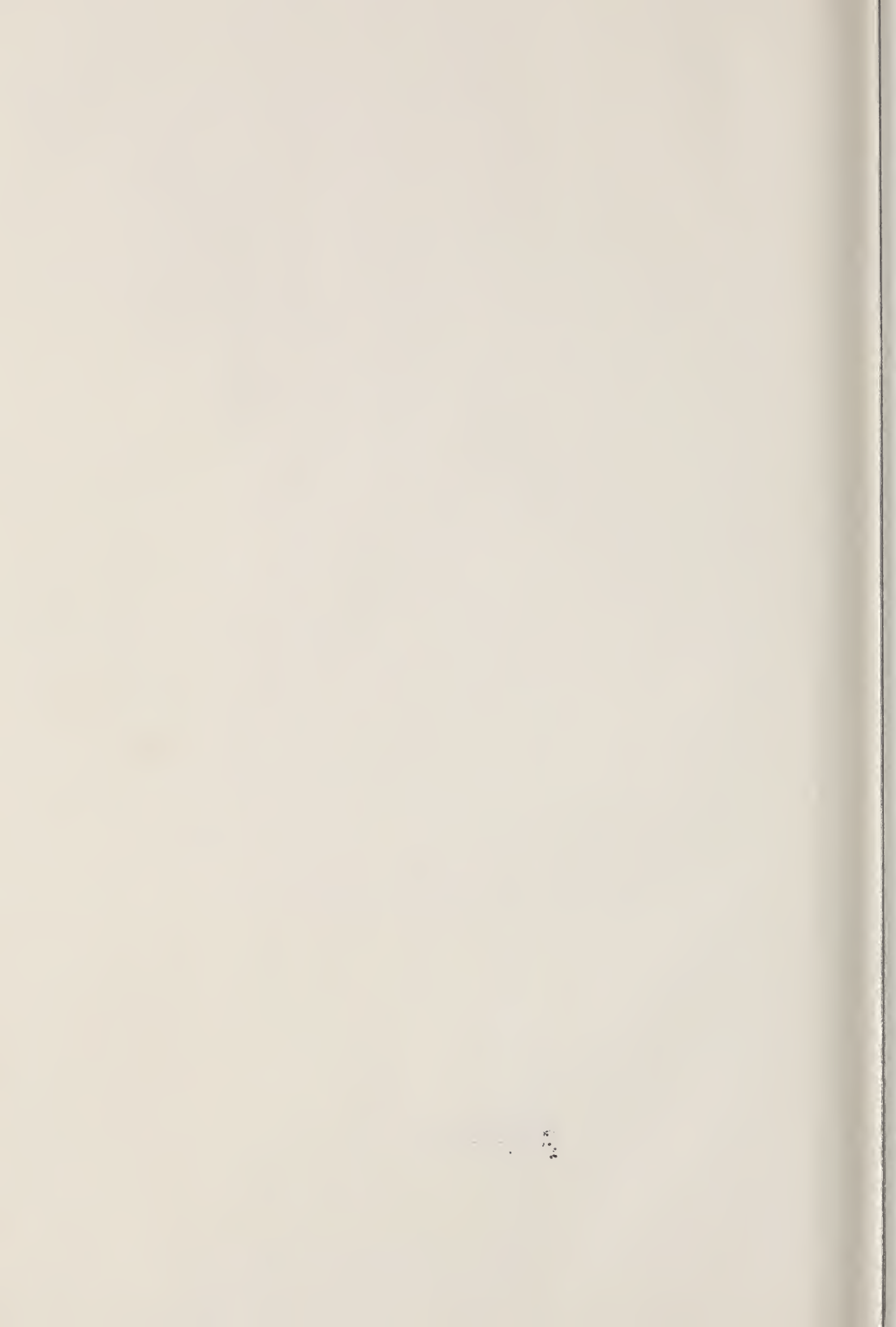
60. r. r. , 8 relapse rate, 6-10%
61. r. r. , 15 relapse rate,  
11-19%  
111, 138, 140, 146, 208
62. r. r. , 25 relapse rate,  
20-29%  
57, 64, 112, 145, 163, 279, 311, 334
63. r. r. , 35 relapse rate,  
30-39%  
37, 110, 113, 114, 115, 128, 229, 282,  
298, 324
64. r. r. , 45 relapse rate, 40%  
or more  
25, 31, 41, 70, 94, 98, 137, 203,  
222, 225, 226, 228, 250, 269, 270,  
314, 315, 320, 326, 328, 330, 332
65. d. r. , 3 drop-out rate, 1-5%  
8, 175, 215, 239, 314
66. d. r. , 8 drop-out rate,  
6-10%  
25, 37, 275, 332
67. d. r. , 15 drop-out rate,  
11-19%  
279, 298, 334, 338
68. d. r. , 25 drop-out rate,  
20-29%  
111, 128, 138
69. d. r. , 35 drop-out rate,  
30-39%  
111, 128, 138
70. d. r. , 45 drop-out rate,  
40% or more  
250, 269, 300
- DRUGS USED IN TREATMENT**
71. apomor. apormorphine  
2, 3, 16, 17, 20, 23, 26, 30, 31, 40,  
45, 48, 52, 53, 54, 59, 60, 61, 62,  
81, 82, 86, 87, 88, 89, 91, 92, 95, 97,  
98, 99, 103, 104, 110, 111, 112, 113, 114,  
115, 118, 119, 120, 121, 122, 124, 125,  
127, 136, 139, 140, 151, 152, 153, 160,  
162, 178, 179, 180, 182, 184, 186, 187,  
195, 201, 203, 211, 212, 216, 217, 218,  
222, 223, 224, 225, 226, 227, 228,  
229, 230, 231, 232, 233, 235, 241,  
245, 246, 248, 249, 250, 251, 252,  
254, 257, 259, 264, 265, 266, 272,  
275, 281, 284, 285, 286, 293, 295,  
306, 310, 311, 319, 320, 323, 327,  
339, 342, 343, 347
72. chlordiaz. chlordiazepoxide  
96, 116
73. cit. cal. calb. citrated calcium  
carbimide  
127, 187, 232, 233, 282, 321, 339
74. disul. disulfiram  
3, 22, 23, 26, 31, 41, 50, 53, 54, 69,  
88, 92, 98, 99, 115, 116, 117, 120, 121,  
127, 168, 178, 179, 180, 187, 201, 211,  
219, 228, 232, 233, 244, 248, 251,  
259, 272, 277, 293, 301, 302, 303,  
322, 339
75. emetine emetine  
3, 5, 15, 19, 23, 24, 29, 31, 40, 49,  
52, 53, 54, 58, 60, 61, 83, 86, 90,  
95, 100, 101, 103, 106, 115, 116, 117,  
119, 120, 121, 122, 125, 127, 140, 144,  
145, 146, 148, 152, 161, 165, 167, 168,  
170, 171, 172, 175, 176, 177, 186, 194,  
201, 206, 207, 211, 217, 218, 223,  
224, 228, 230, 232, 235, 238, 239,

- 240, 241, 245, 248, 251, 254, 258,  
266, 272, 278, 279, 280, 287, 293,  
303, 306, 307, 310, 311, 314, 315,  
316, 320, 322, 323, 324, 326, 327,  
328, 329, 331, 332, 339, 341, 343
76. ephedrine ephedrine  
5, 30, 58, 120, 144, 145, 171, 206,  
235, 241, 279, 280, 287, 306, 311,  
314, 316, 320, 324, 343
77. metroni. metronidazole  
168, 196, 232, 268
78. nicot. acid nicotinic acid
79. pilocar. pilocarpine  
5, 30, 58, 90, 120, 144, 145, 171,  
206, 235, 241, 279, 280, 287, 306,  
311, 314, 320, 324, 343
80. succinyl. succinyl choline  
39, 72, 83, 86, 103, 108, 116, 117,  
120, 122, 137, 141, 166, 167, 192,  
212, 232, 248, 267, 317, 339
81. trifluo. trifluoperazine









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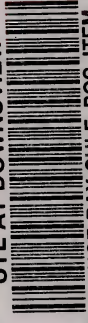
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